

# AMERICAN RAILROAD JOURNAL.

## STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

### HENRY V. POOR, Editor.

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#### American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

New York, Saturday, July 28, 1855.

#### Mobile and Ohio Railroad.

The charter of the Mobile and Ohio Railroad passed in February, 1848, by the Legislature of Alabama, gave the company perpetual existence, with the right to construct a railroad "from some suitable point in the city of Mobile, in a western or north westerly direction, to the west line of the State, towards the mouth of the Ohio river, on such route as should be deemed the most expedient." The capital stock was not to exceed \$10,000,000, in shares of \$100 each. The construction might be commenced on the subscription of \$250,000. The Directory was to consist of thirteen stockholders, on whom were conferred the usual powers and privileges. The right to build branch lines on either side of the main road, not exceeding 30 miles in length, was granted. The company were authorized to regulate tolls and charges; and their property was made subject to taxation, in the same manner and to the same extent, as private property. The road was required to be commenced in five, and completed within ten years, from date of charter.

The charter granted by the Legislature of Mississippi, differed in no respect materially from the above, except that the portion of the road passing

through that State was not made subject to taxation, till it paid annually an interest of eight per cent. on its cost, when it was made liable to the same extent as lands in the State, and no more.

In Tennessee, the existence of the company was limited to 500 years. The citizens of that State were required to have the opportunity of subscribing to one-fourth of the stock. The right of way through the public lands was granted gratuitously, together with all the materials requisite for construction found on the route. The company were prohibited from carrying on banking operations. Their agents and officers were exempted from jury and military duties. The capital stock was made free for ever, and the road with its equipment, for twenty-five years from completion, from all taxation; nor should a tax at any time be imposed reducing the annual dividend below eight per cent. Operations were required to be begun in four years, and finished within ten years thereafter from date of charter. By a subsequent enactment, the road, within the limits of the State, became the recipient of the State aid of \$8,000 (increased to \$10,000) per mile.

The charter granted by the Legislature of Kentucky was similar in all respects to that granted in Alabama. The measure passed the Legislative bodies of the above four States within less than four weeks.

The length of this great work when completed, including 88 miles of branch roads, will be 527 miles. With the Illinois Central and its northern connections it will form one great north and south trunk line, extending from the Gulf of Mexico to the Lakes and Canada, and bringing together the inhabitants and productions of nearly 20 degrees of latitude! By means of this grand trunk, the copper and iron ores of Lake Superior will be exchanged for the cereals of Illinois, and both for the cotton of Alabama! Nay, it is not improbable that within a few years, the "iron horse" may quench his thirst in the sunny tributaries of the Gulf, and repeat the operation in a few days from those distant currents that glide noiselessly to the Frozen Ocean.

The Mobile and Ohio road occupies a route eminently favorable for construction. Its southern terminus is 18 miles below the city of Mobile, where the channel of Mobile Bay has a suf-

ficient depth to admit heavily laden vessels at all times. The route, after leaving the city, proceeds to the North-west, reaching the eastern bank of the Pascagoula, in the State of Mississippi. The route for the first 100 miles is in general over a level and heavily timbered section of country. To the north of this region it enters the cotton growing portion of Mississippi, one of the most fertile and productive portions of the South. On leaving the valley of the Pascagoula, it passes by a very direct northerly line to the west bank of of the Tombigbee, following its course to within a short distance of the Tennessee State line. The remainder of the route inclines a little to the westward, crossing several streams, as the Randolph and the Obion, tributaries of the Mississippi. At Columbus, Ky., it first strikes "The Father of Waters," and continues along its eastern margin the remainder of the distance to its northern terminus, opposite the village of Cairo, in Illinois.

The country through which this road passes is in general level, requiring but a moderate amount of bridging, and no excavations of a serious character. What little there is of the latter is through soft ridges of sand-stone or lime-stone formations. The surface is moderately undulating, the highest ridges not exceeding 300 feet above the beds of the streams in the neighboring valleys. The highest point in the course is not 700 feet above tide water at Mobile. The gradients and curves are accordingly easy, none of the former going south exceeding 30, and going north 40 feet per mile; while the shortest curves have a radius of 1,432 feet, or four degrees. In passing through the States of Alabama and Mississippi, the road occupies the elevation between the Pascagoula and Tombigbee rivers. Throughout its entire length, it is sufficiently distant from the Mississippi river to draw an extensive business from both sides; while it pierces the richest agricultural sections and enjoys the most favorable route which that celebrated valley can afford for such a distance.

The connections of this road, though not numerous at present, will be, when completed, of the most important and valuable description. At its southern terminus direct railroad communications will be opened with New Orleans, on the one side, and the Atlantic seaboard on the other. The har-

bor of Mobile is the best on the northern shore of the Gulf of Mexico, being easily accessible from the sea, and having always a sufficient depth of water for the largest class of vessels. In its course through the States of Mississippi and Tennessee, lines will radiate from the main stem to Vicksburg and Memphis on the west, and to Selma, Chattanooga, Nashville, and Louisville on the east. On the north it has the Illinois Central Railroad and the Mississippi and Ohio rivers—all concentrating their business at a single point. The length of time required for the navigation of the Mississippi with the dangers attendant upon steamboat travel, on that river, must have the same effect there as elsewhere—to drive travel to the railroads. In addition to this, the great uncertainty which for some years has begun to be felt in the navigation of nearly all the southern rivers, occasioned by the want of rains, must make the cotton and other great staple products of the Gulf States, pass over this route at all seasons, and furnish it a large and constantly increasing business.

The estimated cost of the undertaking, with a sufficient equipment, and a rail of 65 lbs. per yard—the size subsequently adopted—was \$10,000,000.

Books for subscriptions to the stock were opened in May, 1848; and early in June the company were organized by the choice of a Board of thirteen Directors of whom Sidney Smith, Esq., was elected President. In the month of October following, the surveys were commenced under the superintendence of John Childe, Esq., the company's Chief Engineer. Both these gentlemen have remained to the present as the principal managers of the affairs of the corporation. The surveys and location of the road were performed in a thorough manner, over 5,000 miles having been run, during 1848 and 1849. The results were announced to the stockholders, at their second annual meeting, in July, 1850.

The first seventeen miles of the road, were let for grading, masonry, and bridging to contractors, in August, 1849. Sixteen miles additional, completing it to the Mississippi State Line, were put under contract later in the same year.

On account of the limited subscriptions to the stock, the Board from the first determined to adopt a cautious system of policy, and put such parts only of the work under contract as they felt themselves able to finish, and where a reasonable amt of stock had been taken. At the date of organization, the principal subscriptions had been made in Mobile. In January, 1849, a new effort was made to increase this, resulting in a total individual subscription of \$700,000 in that city. Subsequently the city authorities agreed to aid the company by a subscription of \$300,000, payable in annual instalments of \$25,000, to be raised by a special tax upon the real estate of the place. It will hardly be believed that after so much exertion, the sums taken along the line amounted to about \$100,000 only, for the construction of a line of railroad over 500 miles in length!

The work continued making but slow progress, till September, 1850, when, application having been made to Congress from several State Legislatures, for aid to the undertaking, a bill was passed, granting the right of way through the

States of Illinois, Mississippi, and Alabama, with alternate sections of the public lands for six miles on each side of the line, with the privilege of extending these nine miles further, if the lands were already taken up—to aid in the construction of a great line of railway from Chicago to Mobile. Under part of this munificent grant, the Illinois Central road was commenced, and is at the present near completion. The portion of the public lands falling to the Mobile and Ohio company, by this enactment, amounts to 1,158,000 acres.

The effect of this grant, which was immediately accepted by the States, and transferred to the company, was most auspicious. Public confidence in the undertaking immediately began to revive. Here was a donation almost unconditional, nearly sufficient to provide iron, erect buildings, and stock the road with machinery—granted, besides, without any consideration in the shape of an annual tax to the States through which it passed. This was shortly afterwards followed by the act of Tennessee granting her credit to that part of the road within her limits to the amount of \$8,000 (subsequently increased to \$10,000) per mile. The city of Mobile, by a vote of her citizens, sanctioned by Legislative authority, increased her stock subscription from \$300,000 to an annual tax of two per cent. for five years upon the assessed property of her citizens, amounting, in 1852, to \$11,500,000. This at once added \$1,150,000 to the company's stock from the city of Mobile, and was quickly followed by the counties along the line in Mississippi. By the close of 1851, \$1,000,000 additional had been subscribed by counties and individuals residing within the limits of that State; and in the following August, their resources for construction, besides the land grant, amounted to \$3,655,000, including \$700,000 subscribed in the States of Tennessee and Kentucky. This secured the completion of the road-bed for its entire length.

The first 33 miles of the road were put in operation in the latter part of August, 1852. About the same time, 55 miles more were put under contract; and, in October, 179 miles additional. By the terms of the agreement, these respective portions were to be made ready for the iron by the close of 1853 and 1854.

The remaining distance in Mississippi with that in crossing the State of Tennessee was let at different dates in the early part of 1853—the contractors being in many cases planters who lived along the line of the road. It should be observed that the right of way through private property in all the States, was in most cases gratuitously conferred upon the company.

In November, 1853, when the stock subscriptions had reached to over \$5,000,000, an issue of bonds was prepared by the company, to the amount of \$6,000,000, bearing six per cent. interest, and falling due in 1883. These bonds were secured by a first mortgage on all the company's property, lands included; and were made payable in London, the issue having been made for the purchase of rails which had been effected in England. The bonds were 6,000 in number for £225 each. These securities, however, were not negotiated at that time, the State of Alabama having made a loan to the company of \$400,000 which

served to meet their immediate demands, and enabled the Board to postpone the sale of their bonds for the time.

Part of the road within the State of Kentucky was put under contract, in beginning of 1854, the remainder having been deferred on account of the want of local subscriptions.

On the 4th of July, 1854, the road was opened from Citronelle to which it had been running for the previous year, to Winchester, 76 miles from Mobile. Since that date various sections have been completed. In January, it was finished as far as Quitman, 109 miles; and in June it was opened to Enterprise, 120 miles, which is its present northern terminus.

As the issue of \$6,000,000 of bonds which had been prepared in 1853, was not disposed of, the managers refusing to sacrifice the interests of the shareholders in the financial crisis of last year, an issue of Income bonds, bearing eight per cent. and payable in six years, was lately prepared. Of these it was proposed to dispose of \$500,000 in the city of Mobile, and the remainder to contractors and others on the line of road. The proceeds were expected to realize funds sufficient to lay the track to Columbus, a distance of 235 miles from Mobile. Operations are now going on vigorously to accomplish this, and we may accordingly expect the same to be executed at an early day. The remainder of the line has also been placed under contract; and, with the exception of a few miles, the entire line from Mobile to the mouth of the Ohio is now ready for the rails. The work of laying these is at present progressing at the rate of three miles per week.

According to the last report of the company, the gross earnings of the road for the 11 months ending 31st December, 1854, were

Passengers.....	\$21,367 59
Freight.....	37,999 86
	<hr/> \$59,367 45

To this should properly be added the freight on the transportation of the company's own materials, as iron, lumber, &c., amounting to \$35,545 30, and making a total of \$94,913 75.

The transportation expenses for the same period were \$45,433 15, leaving as net proceeds \$49,480 60, or 52 per cent. of the gross earnings.—Considering that for the greater part of the time, the road was running 33 miles only, and that through the poorest section of country on its route, the above results cannot be regarded as unsatisfactory.

The receipts of the company for the same period were \$1,428,133, arising from the following sources:

Balance from 1853.....	\$50,983
Balance City Tax of 1851, 1852, 1853, and 1854.....	172,241
Instalments.....	395,678
Sales of City Bonds, Lands, &c.....	76,893
States Subscription and Loan.....	454,410
Miscellaneous.....	277,935
	<hr/> \$1,428,133

The total expenditure for the same period was \$1,344,569, leaving \$83,564 in the hands of the Treasurer.

The indebtedness of the company, at the same date, was as follows:



Foreign Debt for Rails.....	\$681,528
State of Ala. for Loan.....	400,000
Local and Custom house.....	279,137

Total.....\$1,310,666

The total expenditure to the same date was \$8,666,991.

Since the above date, we understand the company have materially reduced their floating debt, by the sale of their Income bonds. Of these, about \$300,000 have been disposed of, which are redeemable from the present till 1860, in amounts of 20 per cent. per annum.

With regard to the progress of the work we are assured that it can be brought to completion by the close of 1856, if the means are forthcoming. Considering the magnitude of the work in a section of country, too, where labor is difficult to be obtained, and remembering the ordeal of 1854 through which the company have passed unscathed, we think that six, seven, or even ten years cannot be regarded as an unreasonable period for executing such an undertaking. If a comparison be made with the Illinois Central company, let it be remembered that the two roads were placed in very different circumstances, the Central having been constructed principally from the sale of their mortgage bonds secured by the land donation. In the other case, these have been lying by so far to no purpose.

We believe it is now the intention of the company to bring their securities into the market, and thus obtain the means to finish their road to Columbus this present year. The fact of so great a work being undertaken and carried forward so long, without selling a single mortgage bond, is almost without precedent in the history of our railroads. It can hardly be that a work of so much national as well as local importance, and which has such a solid basis of capital expended, in addition to a magnificent grant of public lands, when its claims are presented to the public, should not, in the general revival of confidence, receive that generous support it so richly deserves.

#### Alabama and Tennessee Railroad.

The following gentlemen were elected by the stockholders of the Alabama and Tennessee River Railroad, at their recent meeting, at Shelby Springs, as Directors for said Company:

T. B. Goldsby, President; W. Reynolds, W. S. Phillips, Jas. Isbell, J. W. Lapsley, H. H. Allen, P. J. Weaver, W. L. Perry, E. King, Charles Lewis, G. C. Phillips.

This Board is composed of men of intelligence, and with proper management they can push the road forward with rapidity. We know the most of them, and we confidently believe that they will do all in their power to accomplish the grand enterprise which they have undertaken. There is much for them to do, and they will all have to work together, and by so doing, they can accomplish much. We sincerely hope that all of them will put their shoulders to the wheel, and push the cars across the river.

P. S.—Since the above was written, we learned from the President, that instructions have been given to commence laying the track immediately, and that it will be done as soon as a company can be organized. The President will leave in a short time for New York, to purchase iron to cross the river, and possibly enough to reach the 100 mile station.

We are glad to see the Board taking hold with so much energy, and we hope that every assistance will be rendered by the stockholders. The Board will do their duty if stockholders will do theirs.—Selma Reporter.

#### Pittsburg, Maysville, and Cincinnati Railroad.

The Directors of this company have published an Exhibit of their affairs up to the beginning of the present month. This road runs through the south-eastern counties of Ohio in a North-east and South-west direction, at an average of about 50 miles from the Ohio river. The line thus pierces the heart of the great coal and iron region of the State. On the North, it connects with the Ohio Central line, by which direct communications will be afforded with the Baltimore and Ohio; and by an extension of the P. M. & C. road, it will reach the Steubenville line. On the South, after crossing the Ohio river, roads are already finished or in progress, affording perhaps the most direct line that can be constructed, between the region immediately west of the Alleghany and the cities of Mobile and New Orleans, taking Maysville, Lexington, Danville, Nashville, and other places of note on its way.

The report states that the sum already spent on construction, on the 50 miles east of the Muskingum—the only part on which operations have been commenced—amounts to \$343,882. The estimated cost of these fifty miles is \$1,032,840, or a little over \$20,000 per mile. This sum is to be made up from the following sources—

Stock subscriptions.....	\$479,850
Central Ohio Railroad Stock.....	100,000
Foreign Loan.....	500,000
Stockholders' Loan.....	60,000
	\$1,139,850

Giving a surplus of \$107,010 for deficiencies. It has been the constant aim of the Board to construct their work at the least possible expense. A favorable route has been found between the Muskingum and Scioto valleys. The completion of the road to the latter will obtain valuable connections to the North and West.

The following estimate of business has been carefully prepared from the statistics of that section of the State, and from the experience of railroad business in similar localities.

Ordinary Freight—142,566 tons.....	\$121,181
Way and Lateral Passengers—213,302.....	369,500
Coal—average 800,000 bushels.....	27,200
Merchandise, Iron, &c.....	50,000
Mails.....	15,000

\$582,881

From the above deducting 50 per cent. for working expenses, there is left the sum of \$291,440—equal to 11 per cent. on a cost of \$2,640,000.

The work of construction has steadily progressed since its commencement. The grading between Cumberland and McConnellsville is more than half finished. From Cumberland to Washington the road-bed is ready for the superstructure. North of Washington several sections have been commenced.

The stock subscriptions already made are believed to be sufficient to do the grading of the road. The present liabilities of the company are small. The money pressure has obliged them to "shorten sail" somewhat, but does not appear to have otherwise injuriously affected them.

To provide for the bridging, superstructure, and machinery, the Directors propose issuing \$500,000 of seven per cent. mortgage bonds, running 25 years. They have also issued income bonds run-

ning six years, with seven per cent. interest. The proceeds of the latter are designed in part to secure the payment of interest on the half million loan, till the earnings of the road will meet it. The payment of the whole of these bonds will be provided for by a sinking fund. They are offered at 90 per cent. payable in instalments.

The report has the appearance of being a candid, straight forward document. We see no evidences on the part of the Directors of their trying to puff up their road as the greatest affair of the kind in creation. No comparisons are introduced, magnifying their own line at the expense of other parties. The whole thing appears to anticipate success from prudence and good management. We bespeak for it the favorable notice of our readers.

#### Atlantic and Great Western Railroad.

This company was chartered in 1851, under the name of the Franklin and Warren Railroad Company, with a capital stock of \$2,000,000, which might be increased to double that amount, to build a railroad from the village of Franklin, in the county of Portage, to Warren, in the county of Trumbull, and thence to the east line of the State, proceeding in a westerly or south-westerly direction. The rights to connect with other Railroad companies, to borrow money on mortgage at any rate of interest, and to connect advantageously with other lines, were conferred. Other privileges and obligations are specified in the general Railroad law of the State. An act was passed, authorizing companies to change their corporate names, in the Legislative session of 1852-3.

The South-western terminus of this road has been fixed at Dayton, whence it is to proceed through the cities and villages of Urbana, Lewisburg, Richwood, Marion, Galion, Crestline, Ashland, Salem, Bridgeport, Akron, Franklin, Ravenna, Windham, Warren, and other places, to Orangeville, on the Pennsylvania State line. From this point, it is designed to connect with the Erie, the Sunbury, and the Pennsylvania Central by lines in a more or less advanced state of progress. The route will cross the Cleveland and Mahoning, Cleveland and Pittsburg; and connect with the Cleveland, Columbus, and Cincinnati, Ohio and Pennsylvania, Ohio and Indiana, Bellefontaine and Indiana, Mad River and Lake Erie, Dayton and Indianapolis, Cincinnati, Hamilton, and Dayton, &c. The present contracts contemplate a six foot gauge. The last named of the above companies has agreed, when required, to lay down an additional track on their line into Cincinnati, so as to afford the company direct connection with the Ohio and Mississippi road, without breaking bulk. This arrangement would furnish a line of the wide gauge, 1069 miles long, between the cities of New York and St. Louis, should these lines be completed.

The company were organized in June, 1851; but beyond making surveys and location, and obtaining subscriptions to the stock, little was done in the remainder of that and the following year. In July, 1853, the work of construction was put under contract, and vigorously pressed forward, until the financial depression of last years, which obliged all parties to check operations to a considerable extent. Several changes have since been made in the route, all reducing the cost of construction, and affording a more direct line.

The capital stock has been increased from two to four million dollars; but the Board have as yet made no issue of bonds, believing such a line of policy to be objectionable until the work has been further advanced. It is believed that from the domestic subscriptions enough can be realized to grade the road, and finish a good portion of the masonry and bridging; after which the managers believe that a loan can be confidently expected and obtained at reasonable rates. It is also recommended that the shareholders take additional stock to the amount of \$500,000—the payments being made conditional on the purchase and delivery of iron along the line.

The Board have already entered into running arrangements with the N. Y. & Erie & N. Y. City, Meadville Branch of the Pittsburg and Erie, and Sunbury and Erie lines. Similar contracts are expected to be made with the Ohio and Indiana, and the Bellefontaine and Indiana; as also with the Columbus, Piqua, and Indiana, Dayton and Indianapolis, Miami and Greenville, and Cleveland and Mahoning companies.

At present the right of way for 160 miles has been secured; and the work done on the whole line is equal to from 72 to 80 miles completed for the rails. This, however, is scattered over so great a length of line as to be but partially advanced at any particular point. The general receipts have been \$866,939; and the expenditures \$862,081, leaving \$4,857 in the treasury. The cash receipts have been \$395,006. The assets of the company are as follows:

Right of Way and Engineering.....	\$133,666 05
Construction and Incidentals.....	480,565 26
Right of Way donated.....	14,000 00
Do do contracted in Stock.....	35,000 00

Total investment in the Road.....	\$618,231 31
Real Estate.....	\$116,291 00
Bills Receivable.....	4,892 29
Cash and Cash items in hands of Treasurer.....	4,857 92

Due from Stock Subscribers.....	1,198,517 16
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Total.....\$1,937,789 68

From which deducting Bills Payable and other obligations, amounting to \$77,294 96, there is left \$1,860,494 72.

Taking this and the subscription recommended, the following statement will show the means relied on for the completion of the work.

Acquired means.....	\$1,860,494 72
Conditional subscription ready.....	250,000 00
Subscription to be applied on balance of right of way.....	50,000 00
Conditional subscription recommended.....	500,000 00
Stock held by Co. which may be used or held to meet a similar amount of convertible bonds.....	1,000,000 00
Stock to be held by Co. to meet interest on stock and contingencies.....	389,505 28

The Company have a right to issue bonds amounting to.....	4,000,000 00
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\$8,000,000 00

The estimated cost of the work is as follows:

The aggregate amount of the estimates for graduation, masonry, bridging and ties and other materials delivered up to this date, is \$596,600 00.

#### Estimated Cost of the Work, exclusive of Fencing, Buildings, Motive Power and Rolling Stock.

Graduation, Masonry, Bridging, Balasting, furnishing Ties, and laying the Track on 264 miles of single Track and Sidings, at \$13,800 per mile.....	\$3,505,200
Iron Rails weighing 65 lbs. per yard, and 102 gross tons per mile, at \$55 per ton, including transportation.....	1,424,940
Chairs, Spikes, Frogs, and Switches, \$580 per mile.....	134,620
Right of Way and Depot Grounds.....	200,000
Contingencies, Engineering, and Agencies.....	140,000

Total Cost of Road.....\$5,404,760

Passenger, Freight, Wood and Water Stations.....	\$90,000
Repairing Shops, Engine and Car Houses, Turttables and Machinery.....	100,000
Motive Power and Rolling Stock of all descriptions.....	786,000
Fencing.....	66,000
Contingencies, Engineering, and Agencies.....	10,000

Total cost.....\$6,456,760

Average total cost per mile of Road and Equipment \$26,516.

The foregoing estimate is made upon a scale commensurate with the importance of your road, and it is believed will fully complete and equip it in such a manner as will enable it to come into successful competition for a large and remunerative traffic. The weight of rail and character of mechanical structures, buildings and rolling stock estimated, will render it in all respects a first class work.

#### Norwich and Worcester Railroad.

According to the Sixteenth Annual Report, the receipts of the Company for the year ending May 31, 1855, were \$304,651 73, from the following sources, viz:

Passenger receipts.....	\$128,067 66
Freight receipts.....	151,986 33
Mail Service, Rental, Express, &c.....	24,597 74

\$304,651 73

The expenses for the same period, were.....	209,195 19
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Which being deducted from the receipts as above, gives net receipts for the year.....\$95,456 54

The amount of interest paid on the debt of the Company for the same period is.....40,767 57

Showing net amount of receipts for the year.....\$54,688 97

The receipts for the year ending 31st May, 1854, were.....\$834,135 09

For the year ending May 31, 1855....304,651 73

Showing a decrease in the business of the year as compared with the previous year of.....\$29,483 36

This decline in the business along the line of the Road has been caused by the great stagnation of the business of the country, and which has materially affected all the New England Roads.

The expenses, however, of operating the road, have not been diminished. The prices of fuel, oil, labor, and most of the articles used in the construction, repairs and operation of railroads, did not decline in price with the falling off in their business.

The whole debt of the Company is \$796,886 88, and is made up as follows:

Loan of State of Massachusetts, due in 1857, and extended by the State, to 1877—

Interest 5 per cent. per annum.....	\$400,000 00
Bonds due in 1856, 6 per cent.....	6,000 00
do 1860, 6 per cent.....	205,800 00
do 1860, 7 per cent.....	16,000 00

\$627,800 00

Bonds due in 1857\*, 7 per cent.....\$25,000 00

Bonds due in 1858\*, 7 per cent.....25,000 00

Mortgage on Depot property at Norwich.....19,300 00

Bills payable, including \$30,000 given on account of Loan to W. Farnum, and secured by an equal amount of the Providence and Worcester R. R. Co's stock.....117,381 60

Accrued interest.....11,761 91

Balance due to other R. R. Companies and individuals.....20,643 37

169,086 88

\$796,886 88

The assets which may properly be deducted from the indebtedness, are in value, \$185,626 95, and are as follows:

Bills receivable.....	\$2,156 00
Surplus Real Estate.....	19,768 69

D. Henshaw, and others, Trustees, being cash in their hands for the redemption of Bonds due in 1860, and held by Boston and Worcester Railroad Company.....16,058 77

W. Farnum's obligations, secured by 420 shares stock of the Providence and Worcester Railroad Company..46,087 27

Inventory of Wood, &c.....62,581 25

Balance due the Company.....38,974 97

\$185,626 95

Which deducted from the amount of debt, shows the balance of debt to be \$611,259 93.

Within the past two years and a half there has been paid of the funded debt of this Company, from current receipts \$32,000, as follows:

Bonds of 1852, balance.....	\$2,000 00
do 1853,.....	11,500 00
do 1854,.....	11,000 00
do D. Henshaw, and others, Trustees.....	7,500 00

\$32,000 00

In addition to which there has been paid the company's proportion of the cost of the Junction Railroad, connecting the track of the Norwich and Worcester, with that of the New London, Willimantic and Palmer Railroad, \$22,702.32.

It was the intention of the Board to fund these payments by a sale of the bonds of the company, which have been prepared for the purpose, but which, for reasons well known to the business world, they have not been able to do, unless at a sacrifice which they did not feel justified in submitting to. The company has never sold its bonds, except \$5000, at rates below par, and in a season of general prosperity they will command it.

The whole indebtedness of the company, not deducting for its assets, is but \$12,640 10 per mile, upon the whole road; and for the whole amount of bonds which are secured by mortgage, including \$50,000 loaned to the Steamboat Company, it is but \$10,116 41 per mile.

By a law of the State of Connecticut passed in 1849, no railroad can issue bonds to an amount greater than one-third of its whole cost, and all bonds so issued, must be registered in the office

\* Loaned to Norwich and New London Steamboat Company, with ample security on Steamboat Commonwealth, and Insurance.



of the Comptroller, and be certified by him, that they are issued in conformity with the law.

The Board in order to aid the Norwich and New London Steamboat Company in increasing the efficiency of the line to New York connecting with the road, loaned to the company bonds as follows:

Payable in Dec., 1857.....	\$25,000
" " 1858.....	25,000

And guaranteed the bonds of the same company to the extent of \$50,000 payable the one-half in June, 1856, and the other in June, 1857. As security for this loan of credit they have received the first lien on the new Steamboat Commonwealth, built at an expense of \$240,000, and which is now running on the line. The interest on these bonds is provided by the Steamboat Company as it falls due.

Under the law above named, the company can issue but \$91,369 44 of bonds, in addition to the amount already issued, and the \$150,000 executed but not yet issued. They propose to sell these at the earliest moment they can do so without sacrifice, and apply the same to the restoration of the earnings which have been used, and diverted payment of dividends.

Amongst the assets of the company will be noticed 420 shares of the stock of the Providence and Worcester Railroad Company. This stock it is proposed to sell so soon as it can be done at par, thus saving to the company any loss therefrom. In the meantime the regular semi-annual dividends on the stock are received and applied to the interest on the notes which have been given for the same. The object for which this advance on this stock was made, has been accomplished, by the adjustment of a tariff of rates for freights between Worcester and New York common to the companies and which is remunerative to both. By this arrangement the competition which has heretofore existed is removed.

The Board feel that they have acted for the best interests of the stockholders, and if disappointment exists on their part, that they have received no returns for their investments for the past year, it must be attributed to the fact that the business of the country, and consequently of the road, has been materially diminished. For this there is no remedy but in the revival of activity in the channels of trade and travel, and of which there seems now to be a bright promise.

The company may now challenge comparison with either of the lines between New York and Boston. The boats and the equipments of the road are superior to those of any other.

At a meeting of the Directors, on the 12th instant, a dividend of two and one-half per cent. was declared on the capital stock, out of the earnings up to the 31st of May last, inclusive, payable so soon as the company shall realize funds sufficient for that purpose, from the sale at par of its 7 per cent. coupon bonds, dated June 1st, 1854, payable 1864 and 1874. Certificates for the dividend, bearing an interest of 6 per cent. per annum from the 11th instant, payable as above stated, will be issued on and after the first proximo, at the office of the Farmers' Loan and Trust Company, No. 18 Exchange Place, New York, for the stock registered at the close of the books of the company on the 7th instant.

#### Auburn and Eel River Railroad.

The Toledo Blade gives the following particulars, in reference to the progress of this work.

While contemplating with delight the early opening of the Wabash Railroad, and with mortification, the precarious advantage of a fair weather canal, our people seem to have forgotten that another means of ingress and egress for the Wabash Valley is in progress, we mean the Auburn and Eel River Road, which connects with the Air Line or Northern Indiana Road, (at the elbow just beyond the Indiana line where the Northern Indiana Road is diverted towards Goshen) and runs direct to Logansport, a distance of 91 miles. We understand from reliable authority that one

half of the track is ready for the iron. We understand also that the iron for 23 miles of the road is purchased and in transit, the whole right of way and depot grounds secured, and the prospect good for an early completion of the road. The Eel River bottoms and the country north are very productive, and now supply a large share of the produce shipped from the nearest Wabash River towns. To a large section of country the completion of this road must prove of immense advantage, as well as to the city of Toledo, its outlet.

No so fertile and productive a country as the Wabash Valley remained so long, land locked and inaccessible. But now it will soon be penetrated by three great channels of commerce and travel. When this route is completed, and the Dayton and Michigan, and the Detroit and Toledo are finished, all of which are in rapid progress, seven railroads, two canals and the Lake navigation, will converge at Toledo, making it practically and commercially, what it is geographically, a focal and concentrating point of trade and travel, hardly rivalled on the continent.

#### Journal of Railroad Law. UNCLAIMED EXPRESS FREIGHT.

At the last session of the New York Legislature an act was passed in relation to unclaimed express freight. It is intended to provide a way for Express companies to make some disposition of the large amount of unclaimed freight which they find left upon their hands, without making themselves liable in damages, when the tardy owner "turns up." The statute provides that every company or person engaged in the Express business who shall have any unclaimed article in their possession not perishable, for a period of at least one year, may sell it at public auction. The sale must be upon a notice of four weeks, made by publication in a newspaper at the place to which such article was directed. The notice must contain a description of the articles, together with the address of each one. It does not appear, however, at all that the sale must be at the place to which the article is sent; but the advertisement must be published, both at the place of intended destination, and at the place designated for the sale. If the rightful owner appears before the sale he is bound to pay the expenses incurred for advertising his article before he can receive it.

If, however, the property is of a perishable nature, it may be sold as soon as it can be, on giving the requisite notice.

The proceeds of such sale are then to be kept for five years subject to the order of the owner, if any one should ever prove himself the owner, at the end of which time, if not claimed, they are to be paid over to the overseers of the county poor.

If this statute is not a nest of litigation we are much mistaken; that is if it is ever attempted to be carried into execution.

Firstly, who are engaged in the Express business? Studley & Co. who carry baggage from the depots, about the city, call themselves a baggage express company. Are they more engaged in express business than a carman whose business it is to carry your baggage to the same place and for the same price? If we deliver our trunk to Adams & Co. to carry it up to Albany we give it to an express company, and they may sell it if it is not claimed. If we put it on board the Isaac Newton or the Hudson River Railroad train directed to the same place, have they the same rights? Are they engaged in the express business? For

notice, the law uses the words "every person or persons engaged in the express business"—according to Webster the business of maintaining a regular conveyance for packages.

Who is engaged in the Express business? Does any body know?

Again, it is not required by this statute that the goods shall have been carried to the place of their destination. Every Express company who shall have had any unclaimed article in their possession for a period of one year may sell the same at public auction, &c. Whether they have delivered it or attempted to deliver it makes no difference. All they need to do is to keep the articles where they are received, or send them to a convenient out of the way place and keep them till the year elapses, then sell. There is nothing but the honesty of "persons engaged in the express business" under such a statute to prevent the express business from becoming public auctions of other people's property.

Again, what is to be done with the interest of the proceeds of these sales—a very important item in six years? Is this to be the perquisite of the "persons engaged in the express business"? It is not to be paid to the overseers—at least there is no provision for its payment to them. Is the owner of the goods entitled to it? Surely not. Interest is but an incident appertaining to the principal. He who is not entitled to the principal can never, or scarcely ever, claim the interest. This then is the property of the "persons engaged in the express business"—and a very pretty source of income it might reasonably prove too.

Well invested the proceeds would increase at least fifty per cent. in the five years.

The fact is that our Legislature need a counsel to draft their laws for them. This one is but a sample of a number to be found in the laws of 1855. The object of this act is very good, and properly enacted and carried into effect it would greatly remedy a serious inconvenience felt by our larger express companies. As it stands, its object is not and will not be effected; and we venture to say, if express companies attempt to take advantage of it, as it at present stands, it will lead into endless and perplexing litigation; and suits against express companies will become as common as are now suits against the sheriff.

#### Northern Central Railroad of Md.

This company have lately published a statement of their affairs, in connection with an application for another loan to enable them to complete their works from Canton to Sunbury. By the report it appears that 84 miles are already in operation, extending from Baltimore to Bridgeport, opposite Harrisburg. Of the remaining 54 miles between Harrisburg and Sunbury, 26 are ready for the track, and the work of grading has been commenced on the balance. The road will thus bring the great coal-fields of Central Pennsylvania in direct connection with the city of Baltimore; and will also furnish, in connection with the Williamsport and Elmira and others, a great central line from Western New York, the Lakes and Canada, to the Baltimore, Washington, and the South Atlantic coast. The line so far as finished has been built in the most complete manner, with rail of 60 lbs. per yard. The estimated amount expended on it as far as Bridgeport, in

cluding \$172,000 of other assets on hand, is \$4,744,783, or for the whole work \$5,644,733.—Against these the liabilities of the company are \$2,630,000 in six per cent. bonds. The actual receipts of the road, for the first five months of the present year, were \$168,809; expenditures \$81,513, leaving \$87,296 as net profits. This is considered promising, in view of the late stagnation of business that has been experienced. Since the first of May, the receipts are stated to have largely increased.

The Board now propose making another issue of six per cent. bonds to the amount of \$2,500,000, to complete their line and furnish it with a sufficient equipment.

As to the prospects for the future, the report states that one company alone have offered to transport 800,000 tons of coal over their road the first year, provided the requisite facilities for carrying such an amount can be obtained. No time need be lost in opening mines and thus creating business, over \$5,000,000 having been already expended for that purpose between Bridgeport and Sunbury.

The following estimate of earnings and net profits has been made from the receipts of the present month:

On the road between Baltimore and Bridgeport, 84 miles are now in successful operation.....	\$700,000
Revenue from through passenger and local travel from Bridgeport to Sunbury.....	275,000
Revenue from general and through tonnage, including local tonnage and Coal trade.....	150,000
Mail pay at \$200 per mile, price now paid by government for 55 miles....	11,000
Revenue from Express goods.....	2,000
250,000 tons of Coal carried to Canton over 100 miles of road at 2 cents per mile.....	500,000
<b>Total.....</b>	<b>\$1,638,000</b>
Deduct expenses at the high rate of 60 per cent.....	\$982,800
Interest on existing debt of \$2,680,000 at 6 per cent....	162,800
Interest on proposed debt of \$2,500,000 at 6 per cent....	150,000
	<b>1,295,600</b>
Leaves for dividend on stock of the company.....	<b>\$342,400</b>

#### Lake Erie, Wabash, and St. Louis Railroad.

The following notice of the opening of this road is taken from *The Fort Wayne Standard*.

The first train of cars passed over the Lake Erie Wabash, and St. Louis Railroad from here to Toledo, on Tuesday the 17th instant, with perfect satisfaction to all, so far as the road is concerned. The road, in its construction so far, is probably the best in the country. It is wider than the Ohio and Indiana, and in the grading is superior to any road we have seen. The manner in which the road is constructed so far, shows a determination on the part of the company to have a first class road, and when the ballasting is accomplished we are fully of the opinion that it will be superior to any other road. The company have manifested in the construction of this road so far an energy and zeal that is worthy of the enterprise in which they are engaged. The management and working of the train is, we are assured—and so far as we could judge during the trip from here to Toledo and back, the assurance is not overrated—in the hands of men of experience and capability, and perfectly trustworthy. Much praise is truly due

not only to the company for the energy with which they have prosecuted their undertaking, but to all engaged in the superstructure of the road so far; and while we say this, we recollect that some of our own citizens have been engaged in this work.

#### Special Car for Carrying the Mail on our Railroads.

The inadequate arrangements for the safe-keeping of the mail provided by railroad companies, and for the accommodation of the agents employed in its distribution, making up, delivery, and exchange, compel the department to call attention to the subject, and to refer to that clause in every contract which stipulates that the mails shall be conveyed in a separate and convenient car, or apartment, suitably fitted for the purpose, and for the sole and exclusive use and occupation of the agent and the mails, and to the absolute necessity which exists that these conditions be complied with. It is impossible that the duties required of the agents by the public interest and convenience, in receiving, stamping, and mailing letters, and making the proper record, be correctly and expeditiously discharged, unless they are furnished with an apartment adapted to the purpose, comfortably warmed and sufficiently lighted and ventilated, and that they may be able to keep the through and way mails, as well as the locked bags and canvass sacks, properly separated, so that they may be thrown off at offices and connecting points without confusion, or liability to mistake, a second apartment of sufficient dimensions is indispensable. The first, or mailing apartment, should be at least 12 feet by 7, provided with counter, and boxes with sliding lids, a window and door on each side, the doors secured by locks. The second apartment, connected with the first, should be at least 13 feet by 7 in dimensions, with locks and other conveniences, and both should be so arranged as to be free from the intrusion of passengers or persons connected with the train.—They must be for the exclusive use of the mails; and, that the agents may be held to a strict accountability for their safety, no persons other than those engaged in the mail service must be permitted to occupy or have access to them at any time for any purpose.—*Wash. Union*.

#### Galena and Chicago Union Railroad Company.

The Eighth Annual Report of the Chief Engineer has come to hand, from which we take the following, being the most important particulars embraced in it.

The whole length of your road and its branches is 249 miles of, of which 211 1-2 miles are now in operation, and 37 1-2 in progress of construction. Of the whole road 121 miles are comprised in the main line from Chicago to Freeport; 21 miles in the Beloit branch from Belvidere to Beloit; 19-10 miles in the Elgin Branch; and 106 1-100 miles in the Chicago, Fulton, and Iowa Central route, from the Junction to Fulton, 68 miles of which are now in operation.

During the past year, all the travelling upon the second and third divisions has been completed, with the exception of a small amount required between Winnebago and Pecatonica stations, that can be put on at a little expense by the wood train, from the gravel pit lately purchased near Pecatonica station. The fencing of the whole line has been completed, and all road crossings thoroughly protected by cattle guards. Additional side tracks have been put in at several stations, where they were required by the increased business of the road, making the total length of side tracks now in use on the main line, exclusive of the second track, 16 47-100 miles; for details of which I refer to the table marked A, accompanying this report.

#### BUILDINGS ON MAIN LINE.

During the past year, a freight house 20 by 66 has been erected at Winfield station; a blacksmith shop 50 by 50; an addition to the engine house, and a freight house, have been built at

the Junction; and the other buildings on the line thoroughly completed. All the buildings at Freeport and Rockford, the blacksmith shop, and engine house at the Junction, and all the tank houses at the principal stations are of brick. The remainder of the buildings are of wood, built in a good style, and covered with fire proof paint. There should be three or four small freight houses built at stations not now accommodated, and it may become necessary as the business of the road increases, to build houses for passengers at the principal stations, instead of using rooms taken from the freight buildings, as at present. With these additions to the present buildings, there should be no further expense in this account for many years.

#### CHICAGO.

At Chicago during the past year, additional grounds have been purchased near the freight houses for the purpose of accommodating side tracks and the standing of cars. The new freight house, 75 by 340, for in freight, has been completed, and the grain house, 60 by 250, put in such a state of forwardness as to insure its completion by the first of September. This, when finished, will be the most perfect building of its kind in the city, and capable of storing, at least 400,000 bushels, and together with the private elevating ware houses already finished on the line of the track in the city, will furnish room for the storage of one and a half million bushels of grain in bulk, and affords facilities for the unloading of at least four hundred cars of grain per day; so that the arrangements for the discharge of freight at this terminus will allow the disposing of double the quantity heretofore handled, and probably surpass those of any other road in the country.—The river front, now owned by the company, on the whole of which a substantial wharf has been built, is 1,060 feet; of which 250 feet is occupied by the grain house, leaving the balance for purposes of receiving merchandize.

The engine house has been enlarged during the year, and additions made to repair shops; but they will require further enlargement as the business of the road increases, as they are now only sufficient for present wants.

#### SECOND TRACKS.

The second track has been completed from the engine house, Chicago West, a distance of two miles, and is now in constant use. Five miles more, to Oak Ridge station, will be ready for operation by the first of July; and the grading to Cottage Hill, a distance of 16 miles, will be ready for the iron at the same time. By using the one and a half miles of new road constructed during the past year, east from Babcock's Grove, (for the purpose of straightening the main line, and the better crossing of the public highway,) the second track could be extended to Babcock's Grove 20 miles, this season, with but small additional expense over the cost of superstructure.

The business of the road will require during the next year, the extension of this track to the Junction; for before this year closes, there will be all the business of over 650 miles of railroad depending upon this road to reach Chicago, without reckoning the Illinois Central Railroad, from Cairo to Mendota, that now sends its business by this track.

#### BELOIT BRANCH.

This portion of the road extending from Belvidere (78 miles from Chicago,) to Beloit, in the State of Wisconsin, 21 miles, was put in operation on the 14th day of November, 1853, since which time it has been been completely graveled, fenced, and provided with station buildings; making it, in all respects, like the main line, a thorough built, first class road.

At Beloit, it connects with the Beloit and Madison Railroad, now in operation at Footville, 17 miles north from Beloit, where it does a large share of the business of Wisconsin, destined to Chicago.—Since the opening of this branch, it has done a very large business, both in freight and passengers comparing favorably with any portion of the main line, and when the Beloit and Madison railroad is



\* extended further north, it will form a part of a line that must prove as remunerative as any portion of the road in operation. When the business of the road increases, as it must in a year or two, additional buildings will be required at its junction with the main line at Belvidere.

#### ELGIN BRANCH, 1 9-10 MILES.

This being a portion of the road as first built, into East Elgin with strap rail, was relayed during the past year with T iron, to accommodate the business of the Fox River Valley Railroad extending from Elgin to the State line of Wisconsin, 35 miles; there to connect with the Wisconsin Central railroad—a road in Wisconsin, of which about 70 miles are now under construction. As a part of this route, destined to attract the business of central Wisconsin to your road, it will prove a very valuable feeder; and from the cheapness of its construction, must be highly remunerative. The 1 1-2 miles will require no addition to its present construction.

#### CHICAGO, FULTON, AND IOWA CENTRAL ROUTE.

This part of the road extends from the Junction to Fulton, 105 miles, of which 45 miles to Lane station, were opened January 10th, 1854. During the past year the track has been extended to Dixon, 23 miles, and put in operation on the 4th day of last December. The road has been well gravelled from Junction to Dement, 40 miles, and the balance of the way put in excellent running order. The fences are all complete for 25 miles, and material contracted for to finish the remaining portion. A freight house, 42 by 84, and a passenger house 20 by 44, both of brick, have been built at Dixon, and water houses of the same material, at all the principal stations on the line. The freight houses at all the other stations are but temporary buildings, and will require to be replaced by more permanent structures within a year or two. At Dixon, a connection will soon be formed with the Illinois Central Railroad, by a branch track, that will allow a free interchange of business and cars.

Beyond Dixon, the track is already laid eight miles, where it awaits the finishing of the bridge over Rock River, which will be completed so as to allow the opening of the road to Sterling, by the first of July. Beyond Sterling, the road-bed is all ready for the superstructure, so that there will be nothing to prevent the opening of the road to Fulton some time in September next.

At Fulton, the necessary grounds have been obtained for depot purposes, giving a good river front, and such land as will be necessary for future operations of the road.

#### NEW LINE FROM COTTAGE HILL TO ELGIN.

In making up the estimates of the future requirements of the road, \$300,000 are estimated as the cost of a new line from Cottage Hill to Elgin. This, when built, would be nearly a direct line between Cottage Hill and the Fox river bridge, one and a half miles below Elgin, having but one curve in its entire length. The distance is nineteen miles, being six and one-half miles shorter than the present line. When the Fox River Valley, and the Beloit and Madison, and Mineral Point roads shall have been completed, the business thrown upon the main line will probably be so heavy as to make the construction of this line a matter of necessity; in effect extending the double track to Elgin.

The following particulars are also given of the characteristics of the route:

- Length of straight line—211 miles.
- Shortest radius of curvature—1,800 feet.
- Total curvature—2,753½ degrees.
- Average curvature per mile—11 degrees.
- Highest grade on main stem per mile 25 feet.
- Length of same 40 miles.
- Highest grade on branches per mile 40 feet.
- Length of sidings in operation 26½ miles.

The equipment consists of 44 locomotive engines, 39 passenger and emigrant cars, 7 mail and baggage, and 684 freight, platform, gravel, and hand cars.

The amount expended during the year, on construction was \$1,616,223 91, making a total of \$5,866,263 06. The estimated amount required to complete the work is \$1,375,000. The entire cost of the road and equipment will consequently amount \$7,241,263, or say seven millions and a quarter—equal to \$24,300 per mile of single track.

The following is an abstract of the company's

GENERAL ACCOUNT.		Dr.
Construction—Main line .....	\$2,083,967 00	
" Beloit branch .....	405,950 42	
" C. F. & I. Central line .....	1,790,572 35	
" Depot grounds and buildings .....	602,400 63	
" Equipment acct. ....	820,454 92	
" Second track .....	56,534 83	
" Interest on bonds and loans .....	106,382 91	
	\$5,866,263 06	
Bonus stock—issued Aug. 1, 1854..	685,900 00	
Stocks and bonds of other companies .....	209,000 00	
Miscellaneous, as materials on hand, debts due, cash, &c., &c. ....	294,404 89	
	\$7,055,567 95	
Capital stock, (including \$685,900 bonus) .....	\$4,334,800 00	Cr.
Bonds second division, convertible... \$11,000 00		
Bonds, first mortgage 7 per cent., 1863.. 1,889,000 00		
	1,900,000 00	
Dividend certificates, outstanding..	209,502 20	
New stock certificates of 1853, outstanding .....	300 31	
New stock certificates of 1854, outstanding .....	523 10	
Bonus stock certificates outstanding .....	590 00	
Unclaimed dividends .....	12,153 50	
Certificates for preliminary survey, outstanding .....	56 18	
Income account; surplus at this date, (B.) .....	315,754 48	
Bills payable and debts owing....	281,888 18	
	\$7,055,568 95	

#### Coast and Shore Line of the United States.

The coast survey, now progressing, develops very many interesting facts in relation to harbors, shores and coasts. That portion of the report of coast survey issued on the 12th of July, 1854, gives us our extent of seacoast on the Atlantic and Pacific Oceans, as follows:

The shore line of the State of Maine, including bays, islands, and all irregularities, 2,486 miles; of New Hampshire, 49; Massachusetts, 889; Rhode Island, 320; Connecticut, 262; New York, 980; New Jersey, 540; Delaware, 118; Maryland, 509; Virginia, 654; North Carolina, 1,641; South Carolina, 756; Georgia, 684; Florida, east coast, 2,474, west coast 1,562; Alabama, 315; Mississippi, 287; Louisiana, 2,250; Texas 1,330.

The above figures give the northern Atlantic coast, including that of Maryland, at 6,150 miles; southern Atlantic, from Maryland to the Capes of Florida, 6,209 miles; the Gulf coast 5,744—total south Atlantic and Gulf 11,953; total Pacific, from boundary of San Diego to the mouth of Frazer's river, 3,251.

Of the Pacific coast, 1,343 miles are immediately contiguous to the ocean; 483 miles of shore line of bay; 707 miles of shore line from Cape Flattery to Frazer's river; 414 miles of shore line of islands in the Pacific; and 304 miles of shore line of islands from Cape Flattery to Frazer's river.

The area of the slopes of the continent towards the oceans, the Lakes and the Gulf, is as follows: The Pacific slope 766,002 square miles, Atlantic

slope proper 514,416, Northern Lake region 112,649, Gulf region 325,537, Atlantic, Lake, and Gulf, east and west of the Mississippi, 952,602, Mississippi valley, drained by the Mississippi and its tributaries, 1,217,562, Atlantic, including Northern Lake, 627,065, Mississippi Valley and Gulf, or middle region 1,543,000.

Over two-fifths of the national territory is drained by the Mississippi and its tributaries, and more than one-half is embraced in what may be called its middle region. One-fourth of this total area belongs to the Pacific, one-sixth to the Atlantic proper, one-twenty-sixth to the Lakes, one-ninth to the Gulf, or one-third to the Atlantic, including the Lakes and Gulf. — *Pittsburg Journal*.

#### Hamilton and Port Dover Railroad.

The following extract is from an address to the People of Hamilton, C. W., on the importance of a line of railroad between Lakes Erie and Ontario, extending from Hamilton to Port Dover, near Long Point. The road will be about 43 miles in length, running through a thickly inhabited part of Canada. The statement regarding the navigation of the Welland Canal will be read with interest, as showing that our public works have not so much to dread from the competition of that line as some were apt to imagine. The construction of a ship canal in addition to railroad facilities on each side of the Niagara river, seems at first sight almost superfluous; but there is no doubt that the neck between Lakes Erie and Ontario is destined to become one of the greatest commercial routes in the world.

In addition these extensive sources of business, the trade between the two lakes, that will flow over our line, will doubtless be very great. This trade has so increased that the Welland Canal is quite inadequate to its wants. Formerly a vessel could pass through this Canal in from 20 to 30 hours. It now requires a whole week, and this route has become nearly as tedious as that by the Erie Canal via Buffalo. It has been shown that a cargo of wheat or flour, leaving Cleveland in the evening and arriving at Port Dover in the morning, may be again set afloat on Lake Ontario, by means of our railway, the following evening, and be delivered at Oswego the next morning. This may seem incredible; but with the improved means of trans-shipment by steam and water power, it is perfectly practicable. We may, therefore, confidently count upon a large trade from all parts of the thickly settled shore of Lake Erie, and for the establishment of one or more daily lines of first class steamers, in connection with the Hamilton and Port Dover Railway, between Dover and Cleveland, which is the mouth of the great Ohio Canal, as well as to other points on the Lake. In addition to the advantages possessed by Dover, as a point of connection between the two lakes already stated, it is nearly 100 miles higher up the Lake than Buffalo, and is open several weeks earlier than the latter in Spring, and also avoids much of the perilous navigation of that stormy Lake. It is besides, opposite the stone quarries and great coal fields of Pennsylvania and Ohio, whence cheap and inexhaustible supplies of coal and stone will be afforded to the Province. As a freight line, the Directors of the Hamilton and Port Dover Railway Company, believe that its importance cannot be over-estimated—and it is this class of business that contributes most largely to the growth and wealth of towns and cities. The carriage of passengers through a country, adds but little to the general wealth, although it is valuable as a means of profit to railways.

There is no reason, however, to doubt that this line will have a large passenger, as well as freight traffic. It is a universal law of commerce that the movement of passengers is always more or less influenced by the general course of trade. If Hamilton becomes the entrepot for Southern

Canada and the shores of Lake Erie those who conduct the business of the various localities, will necessarily be frequently drawn here, and our business men will have constant occasion to visit the sources of business. Thus, in addition to local, we may count upon a large through passenger traffic.

## American Railroad Journal.

Saturday, July 28, 1855.

### Michigan Central Railroad.

In publishing the late report of this company, we commented upon the entire absence in it, as well as in its predecessors, of any explanation for the rapid increase in the construction account of the road, amounting to some \$4,000,000, since it was opened to Chicago.

What we chiefly objected to, was the entire ignoring on the part of the directors of any authority to which they are responsible, or of any duty to others, or of any obligations that do not coincide with their notions of what may be for the interest of the road.

The process by which such notions, pernicious to the interests of all concerned, have come to be entertained, is a very natural one. The road was originally purchased by a few rich men for \$2,000,000. With very many excellent qualities they belonged to a class that are accustomed to have their own way in everything in which they may be connected. As original purchasers and owners of the road, responsible to none but themselves, the public had no right to complain at their silence, or their acts. Since that time, however, the cost of the road has been increased more than six hundred per cent., represented by bonds and additional issues of stock, the greater part of which has gone into hands of parties other than the original stockholders.

While this change of ownership has been going on, the principle upon which the road has been managed has remained the same. It appears to be still managed by the same parties, and as a private affair, or as a close corporation. The directors act as if they were still the only interested parties, and do not seem conscious that they have any responsibilities to others, or that they are under any greater obligations to give an account of their management of the road, than that of any other item of personal property. Another cause which has helped to the result described, is the fact, that the managers of the road reside in Boston, where they are strong enough to be beyond the reach of any public opinion that can be brought to bear upon them. The reports made by this company would not be tolerated by one located in New York, for an instant. Let the Illinois Central, the Michigan Southern, or the Galena and Chicago, make similar reports, and their stocks would fall twenty cents on the dollar. Our public mean to know what the managers of their property are about, and a refusal to let them know, will pretty certainly raise a storm. They have suffered enough from concealment, to tolerate it longer.

In the present case it is no doubt claimed, that proper vouchers can be produced for all expenditures. But this amounts to nothing; the same claim would be set up, whatever use may have been made of the company's money.

Neither does it help the matter if we assume that the directors have acted with entire integrity. It may turn out that they have been and are guilty of great mistakes in judgment. So long as these are concealed, they will be repeated. The way to correct them is to spread them before the public, where they will provoke the criticism of the moral sense of the community, and of the experience which exists upon the subject of railroad management. These are the crowning advantages of full and detailed statements by railroad companies. When men in any department of business entirely ignore the judgment of the public in reference to their duties or employments, a hundred to one, they will wander from the true path. On the other hand, when every act is made patent, the liabilities to mistake or mismanagement are so reduced, that a reasonable success can always be counted upon. A full statement of their doing is, consequently, the first duty of the managers of all public enterprises.

The propriety of our comments, therefore, is fully sustained, even admitting good reasons to exist for the increased expenditure. We will not affirm that they have not been well made, but we do say that we know of no company which, for several years past, have been more exposed to mistakes, to say the least. During this period they have been constantly engaged in an exciting contest with other companies, in the field, before legislative bodies and courts of law. That under such influences some mistakes have not been committed, is hardly to be expected. Such being the fact, how important is it that they should be known.

We are the more surprized at the style of the present report of the company from the great dissatisfaction produced by that of the past year, which was made known to some of the leading directors. We know that for a long time, attempts were made to obtain a verbal explanation of the reasons for the increase in the construction account, and of the actual condition of the company, but without success. Promises of reform were freely made, but no sooner was the pressure of necessity taken off, and the directors found themselves in a condition of comparative financial ease, than all these promises are forgotten, and they again repeat their past formula, which serves only to conceal their operations, and the true state of of the company's affairs.

While we have this subject under discussion, we would call attention to the reports that the company have been extensively engaged in promoting the construction of other roads, for the purpose of securing favorable business connections. If such be the fact ought not the agency of the company in such matters to be distinctly stated? That the directors have not been accustomed to make a full statement of their affairs is proved by the omission in the last report, to state that they held nearly a million of the bonds of the Illinois Central Railroad. The holding of these involved a heavy expense. How was this expense charged? If a direct case of omission, or concealment be proved, may not others still remain concealed; and does not one case of bad faith throw suspicion on all others? Such will be the inevitable result. The whole truth will silence rumor and conjectures which often produce con-

sequences quite as disastrous as if they spoke the truth.

### Evansville, Indianapolis, and Cleveland Straight Line Railroad.

Some kind friend to the above road, we presume, has sent us a speech recently delivered at Evansville, Indiana, in reference to this road, by its President, Hon. O. H. Smith. We comply with the desire expressed, by publishing the most important portion of the speech.

"It has been often asked," (says Mr. Smith) "if the work would succeed, and he assured his audience that it was as certain of completion and success as any other enterprise of the whole country. It could not fail—it was a work of too much importance to the country through which it passes and to those interested in it to think of such an event as a failure. It is to be a work in its character that will stand as high among the works of the Union, in point of business and dividends, as any road in the United States. He was proud of the position the road now occupied amongst the Railroad and moneyed men of the East. It had gone through an ordeal that few roads have to pass. It had encountered bitter and malicious opposition from men in high places,—it had just passed through a financial crisis—and that too, without a day's suspension—such as this country has not seen before. The road was commenced in prosperous times, when stocks were buoyant; but hard times had come upon them—the money all seemed to have been absorbed, and it looked as though not another dollar could be raised. This state of affairs made Messrs. Smith and Carpenter halt and consider what was best to be done. They had an abiding faith that so important a work would certainly work its way through, and putting their own shoulders to the wheel with renewed energy, they now have the proud satisfaction of knowing that while almost all the other public works of the country have been compelled to suspend for a time, their road has steadily braved the tempest to the present time and is now far advanced towards completion of the first division. It was true that they wanted more subscriptions of stock, but the road was out of the woods now."

The President of the Straight Line Railroad has us, at last, on a tender point—one on which we do not well like to get caught. We are always overcome by spectacles in which heroic courage and constancy fight and triumph against fearful odds. In such a contest has the President of the Straight Line been engaged, with a victory as astonishing as were the chances apparently hopeless. But some men have such iron wills, that all nature seems plastic to their touch, and is moulded to their wish. These gifts are not vouchsafed to ordinary mortals; consequently, ignominious defeat would have awaited them, while the President of the Straight Line is crowned with never fading wreaths.—We will describe, though in very feeble terms, the battle and the victory.

Some two years since Mr. Smith commenced operations upon the "Evansville, Indianapolis, and Cleveland Straight Line Railroad." He had just been relieved from the duties of President of one road; but his past achievements did not satisfy the craving of his lofty ambition. Like Bonaparte after the battle of Marengo, he felt that his past achievements would not preserve his lustre from tarnish for a larger period than two generations. Undying fame required a far prouder monument than he had yet raised. His sagacious eye was not long in discovering an appropriate field for his exertions and the appropriate crown of his efforts. He saw in the Evansville, Indianapolis, and Cleveland Straight Line Railroad the grand



"route" to immortality. Possessed with such a sublime instinct, he rolled up his sleeves, and boldly did he go to work. At that time no spot disfigured the horizon. "Confidence" and plenty reigned at home; tranquillity abroad. "Foreign capitalists still inquired after our securities." The Temple of Janus was closed, (though it has since appeared that that old fellow, Nicholas, was even then fumbling after the key.) Mr. Smith, placid as the scene around him, boldly turned his prow seaward, and bade farewell to the strand. But as the past week has shown that the brightest and most fervid sun may be almost instantly followed by an avalanche of rain, succeeded by a long, cold, and dreary drizzle; so soon was the sun that shines in the temple of Moloch snatched from his eager eyes, and down came the financial storm, the like of which never before happened, and we believe never will. We think *Misfortune* then culminated. She ran her last heat, and was distanced. Henceforward she is a spavined jade. But what did the President of the "Straight" Line do? While ruin was reigning around, and while crafts less staunch and which lacked crews composed of the "right kind of men," were being engulfed in the yawning abyss, the gallant leader of the Straight Line only crowded on more sail, and made his prow drink the foaming tide. He knew his duty too well to reef sail on a lee shore.—But even he might have gone down but for the gallant crew at his back. *The White River boys were "thar."* Who has not heard of White River? or at least of the White River bottoms? White River rushed to the rescue. From one end to the other of that capacious and beautiful valley, from the circumference to the centre, were they nerved as one man to follow and second their heroic leader. Had the mighty impulse then raised been directed against *Sevastopol*, it would have disappeared quicker than one could have exclaimed, "Jack Robinson!"—To suddenly change the figure, a privilege allowed only to great genius, the treasury of the company became the coffer of the people of White River. They poured out their money like water. With their sacrifices, the self-denying devotion of our Revolutionary Forefathers is not to be named in the same day.—As if by mysterious coincidence, two opposite and mighty currents set in in the monetary world—in the East toward the seat of war, and in the West to the treasury of the Straight Line. New York was something near the dividing line, from which the waters flowed opposite ways, leaving it dry as a ridgepole. And now, eager and impatient hearer, how much was the sum total of cash subscription that two years of mighty effort brought in to the treasury of the Straight Line road? Why, \$18,720.25, according to the company's report under the date of the tenth of May, and that too for a road which if built will not cost less than \$6,500,000. Well may the President exclaim, that he is proud of a road which could pass such an ordeal, and which moved a-head with unflinching tread, "while almost all other public works of the country were compelled to suspend."!!!

We are unwilling to disturb this glorious picture, but regard for historic truth compels us to say that the identical report above quoted states that the entire contract for construction was let out to responsible contractors to be paid in the stock

and bonds of the company, at par. As the issuing of stocks and bonds involves little more than a certain amount of manual labor, the above statement seems inconsistent with the President's eloquent description of the tremendous efforts required to carry them through the crisis. We are therefore inclined to think that the statement that the company are to pay no cash to the contractors is merely thrown in for the purpose of giving body, or a respectable appearance to the report. Something must be said, and it mattered little what, so long as it is conformed to the general style of the reports of similar companies.

But there is another view of the case which, we confess, throws doubt even upon our last suggestion. We have for some time past regarded the "President of the Straight Line Railroad" as a sort of "knight-errant," bearing pretty much the same relation to railroads that *Don Quixote* did to chivalry. This is the conviction of numerous persons better able to judge than ourselves. There is a wonderful similarity between the rhapsodies of the two. Certain it is that in both cases they serve only for merriment, while the Straight Line Railroad is believed in, just about as much as the fictions of the great hero of romance. But here, we believe, the parallel must stop; for if the people of Evansville believe in Mr. Smith's extravagancies, it is a stretch of credulity which never cheered the heart of his great prototype.

#### Railroad Earnings.

##### NEW YORK CENTRAL RAILROAD.

The following is a comparative statement of receipts on the New York Central Railroad from passengers and freight during the month of June in 1854 and 1854:

	Passengers.	Freight.	Total.
1855.....	\$320,549.33	\$301,160.75	\$621,710.08
1854.....	315,148.57	161,430.03	476,578.60
Inc., 1855...	\$5,400.76	\$39,730.75	\$45,131.48

The following statement of the comparative business of this road for the past six months conferred with the corresponding period of 1854, shows a gain of nearly half a million in the receipts of the present year.

1855—First Six Months.			
	Passengers.	Freight.	Total.
January...	\$169,510.58	\$252,398.24	\$421,938.82
February...	146,453.88	188,672.48	335,126.36
March....	218,362.17	302,309.37	520,671.54
April.....	282,305.09	364,864.00	647,169.09
May.....	311,602.73	309,310.00	620,912.73
June.....	320,549.33	201,160.75	521,710.08
Total..	\$1,448,813.78	\$1,618,714.84	\$3,067,528.62

1854—First Six Months.			
	Passengers.	Freight.	Total.
January...	\$161,233.87	\$174,128.27	\$335,362.14
February...	145,030.02	170,083.38	315,113.40
March....	205,044.62	224,233.15	429,277.77
April.....	251,786.54	250,119.29	501,905.83
May.....	294,948.68	215,872.20	510,820.88
June.....	315,148.57	161,430.03	476,578.60
Total..	\$1,378,192.30	\$1,195,866.32	\$2,569,058.62

Increase in 1855.			
	Passengers.	Freight.	Total.
January...	\$8,306.71	\$78,269.97	\$86,576.68
February...	1,423.86	18,589.10	20,012.96
March....	13,317.55	78,076.22	91,393.77
April.....	30,518.55	114,744.71	145,263.26
May.....	16,654.05	93,437.80	110,091.85
June.....	5,400.76	39,730.72	45,131.48
Total....	\$75,621.48	\$422,848.52	\$498,470.00

WATERTOWN AND ROME RAILROAD.  
The earnings of the Watertown and Rome Railroad for June were as follows:  
From passengers.....\$12,378.76  
From freight.....25,078.20  
Mail and other sources.....1,082.10

Total.....\$38,434.06

BELLEFONTAINE AND INDIANA RAILROAD.  
The receipts of the Bellefontaine and Indiana Railroad for the six months ending June, 30, 1855, were:

	1855.	1854.
From passengers and extra baggage.....	\$56,690.19	\$58,901.74
Freight.....	73,447.90	48,263.80
Mail and Expres.....	4,284.39	4,028.27
Total.....	\$134,422.89	\$111,213.91

Increase in 1855 equal to 28½ per cent. and with a short crop.....\$23,208.98  
Receipts as above.....134,422.89  
Expenses.....73,093.27

Net revenue.....\$61,329.72

OHIO AND MISSISSIPPI RAILROAD.

The Ohio and Mississippi Railroad is advertised to be sold on Wednesday, the 8th of August, between the hours of 10 A. M. and 6 P. M. at auction, at the Court House, St. Louis, under the deed of trust to secure the note of \$1,158,484.61, given to secure the alleged indebtedness of the Company to Messrs. Page & Bacon.

Our Railroads and our Language.

It is a well known fact that the English language is spoken with greater purity in the United States than in almost any part of Great Britain itself. We have fewer dialects, and these far less diverse from each other than are to be found in that island, and probably within even one hundred miles of London. The mass of the American people pronounce the English tongue nearly as correctly as the most wealthy and refined classes in the British empire. It is a curious inquiry, What has given rise to such a different result?

Sallust, in noticing the progress of the Roman commonwealth, speaks of the aborigines as being composed of different races, speaking different languages, and each one living after a different manner. "But," he adds, it is incredible in how short a space they all coalesced." Such may have been the case within and for some distance around the city of Rome; but we have no evidence that the dialects spoken throughout even Italy, much more in the other provinces, ever ceased to exist as such among the masses of the people. There is positive evidence to the contrary. And indeed, the different degrees in which the Latin has entered into the composition of modern European languages, with the changes in form which words from that tongue have undergone, have been owing, there is little doubt, to the extent in which it had been corrupted by the common people in different parts of the empire.

If we trace up the settlement of modern Europe, we can find in the various languages and dialects spoken traces of the local habitation and name of the various Gothic tribes to this very day. Every nation of any magnitude on the continent has its different dialects—sometimes its radically different languages. In Britain the mass of the population express themselves in words of Saxon origin, almost exclusively. The Norman French introduced by the Conqueror is in a great measure confined to the educated classes. The different

dialects spoken in London, Bristol, Manchester, and Leeds—to say nothing of the Lowland Scotch, and Northern and Eastern Irish—are well known. How ready we are to amuse ourselves with the Englishman's 'am and heggs!

In our own country, so far as the original causes were concerned, the same effects might have been anticipated. New England and Virginia were principally settled by emigrants of British origin. In other parts, settlements were made by Germans, Hollanders, French, Danes, Spaniards, Irish, &c. Yet though little over 200 years have elapsed since these began in earnest, we find all traces of these different languages rapidly disappearing before the onward strides of the Anglo-Saxon tongue.

The similarity of our pronunciation and language is still more strikingly visible in the Western settlements. The States west of the Alleghany mountains are each on an average as large as England; yet it would be a hard matter to trace local dialects of our language in any of those States, although peopled from many different sources. The Ohio farmer is perfectly at his ease with his neighbor on the prairies of Illinois or Wisconsin; and a native of New York or Massachusetts cannot detect a jar in the dialect of the inhabitants of Minnesota or Texas.

Within half a century, probably, all traces of the tongue of the Knickerbockers in New York and New Jersey, of the Germans in Pennsylvania and Wisconsin, of the Spaniards in Florida, of the French in Louisiana, will forever have disappeared, except in the few words which our tongue has borrowed from them. In a century from this date, the English language will probably be pronounced with hardly a shade of difference from the Gulf of Mexico to the Northern Ocean, and from the Atlantic to the Pacific.

Such a circumstance will be unprecedented in the world's history; but really not more so than the singular uniformity with which this tongue is already spoken over nearly one-half of North America.

To what, then, is this rapid progress—this increasingly rapid transformation owing? To two causes operating together—the Printing Press, and the Steam Engine, with their proper accompaniment, the railroad.

By means of the former, the uniformity of the language is preserved. The newspaper entering almost every home in the Union discourses in one tongue, one dialect, and becomes the great national standard of speech throughout the length and breadth of our land.

But this great principle is not enough. To supply the great desideratum—a uniformity of pronunciation—the restless, roving habits of our people make up. By means of the steamboat and the railroad there is constantly going on among us, a sort of triturating process, rubbing off, so to speak, provincialisms, and bringing instead a national similarity of habits, a uniformity of ideas, and a universal harmony in language.

#### Buffalo, Brantford, and Goderich Railroad.

We learn that a new effort is being made to complete the Buffalo and Goderich Railroad to Stratford this season. It is now in operation to Paris, but the grade is finished to Stratford. The Canadians are much gratified with the new Board of Directors and will do all in their power to facilitate its completion.

#### Baltimore and Potomac Railroad.

At a meeting of the Commissioners of the Baltimore and Potomac Railroad at Barnum's City Hotel, in Baltimore city, assembled on the 17th inst., it was on motion of Walter W. W. Bowie, Esq.

*Resolved*, That, whereas, by individual subscription a survey of said road has been made with estimates as to cost and profits of the same by Major I. R. Trimble, in an able and highly satisfactory manner, the Commissioners are of opinion that such an enterprise must command capital, and that there are interests embraced sufficiently varied and extensive to warrant the belief and confident expectation that a sufficient amount of stock will be taken at once to carry on and complete this work so important to the people of South Maryland, to the prosperity of Baltimore and the whole South; therefore it is hereby determined that books for subscription of stock be opened by the Commissioners in the city of Baltimore and the counties of Anne Arundel, Prince George's and Charles, on the first Monday in September next, at the Exchange in the city of Baltimore, and at the Court Houses in the respective counties above named.

*Resolved*, That the Commissioners in the different counties and city named in the charter, be respectfully urged to be present at the respective places designated.

*Resolved*, That the Commissioners are gratified at the ability displayed by Major Trimble in his report, and concur fully in the opinion that he has not over-estimated the annual receipts that must accrue to said road by travel and freight, the latter being based on the amount of products in the opinion of this Board far below what will be transported when it comes in full operation.

JOHN S. SELLMAN,  
President Commissioners.

WM. R. BAKER, Secretary.

#### Henderson and Nashville Railroad.

The report of the Directors of this road, for the year ending June 4th, shows that for some time but little progress has been made in construction; owing to the financial depression of last year.—The Board, however, have at no time let operations stop altogether.

Owing to a total failure upon the part of the contractors to fulfil their undertaking, it was deemed necessary that said contract be nullified, which was in December last accordingly done by the Chief Engineer, and ratified by the Board of Directors, since which time there has been no contract for doing the work. On the first day of December, at which time the said contract was nullified, your Board deemed it advisable to keep the work in progress on heavy portions of the road, supposing it would prove economical, and also hasten the completion of the road. From the 1st of December to the 1st of March, they expended for work, about \$4,500 at a point known as the deep cut, in Hopkins county; the work done being estimated at \$8,000, thereby proving great economy at that portion of the work. In the meantime, the work near Henderson being done under contract with Mr. Ross—which was work stock subscribed by Rev. Joel Lambert, there being no money paid out for work done on that portion of the road.

In order to keep down the expenditure to the lowest point, it is stated that the President, Secretary, and Chief Engineer had agreed to render their services gratuitously to the company. This disinterested course, however, does not appear to have been responded to, on the part of the shareholders as it deserved. Many of these had become delinquent; and in some cases it had been necessary to resort to litigation, in order to obtain the subscriptions.

Last September, your president with the chief engineer, made a trip to England, believing from evidence given them on that side of the water, that something might be done in furtherance of your projects. Through the influence of gentlemen there, we succeeded in contracting for enough iron to lay sixty miles, and hoping to pay one-third cash. Failing to do so, however, the contract was not completed or carried out, which is not now (owing to the depreciation in the price of iron) to be regretted.

Since the 15th March, the time we ceased work upon the road, we have, through our president, Mr. Lambert and several other gentlemen, been enabled to increase your capital stock by real estate subscriptions to an amount exceeding thirty-five thousand dollars. An effort of that sort should be kept up, as we have no doubt that the subscription may be, with proper energy, largely increased. The coal fields of Hopkins and Christian counties have already attracted the attention of capitalists at the southern termini of your road at Nashville, who have investments, and no doubt many others from different portions of America as well as Europe, will invest, as it is now being generally conceded that it is the very best investment for capitalists that can be made, and that the region through which your road passes cannot be excelled in quality or quantity of that necessary article of consumption.

The President alludes to certain rumors in circulation, and recommends that the stockholders should call a Board meeting every six months, to examine the proceedings of the Directory, rather than give ear to floating suspicions as to the doings of their agents.

The following statement shows the present condition and resources of the company:

*Means of the Henderson and Nashville Railroad.*  
Stock subscribed to June 1st, 1854. .... \$325,000  
Contractors' stock, bearing to date, say .. 34,000  
Right of way, secured, depot grounds, etc. .... 15,000  
Stock subscribed on real estate since 1st of April last. .... 35,000  
Estimated work done by order of Board in December, January and February .. 8,000  
Road graduation at cost. .... 102,000  
\$519,000  
Expended to June 1, 1854. .... \$38,000  
Expenses past year, including salaries of officers and work done by order of the Board, in December, Jan'y, and Feb'y last. .... 15,000

Total expense. .... \$53,000  
*Statement showing Receipts and Disbursements to date June 1st, 1855.*

Received to 1st of June, 1854. .... \$30,119  
Do. 1855, from .. 8,504  
June 1st, 1854. .... \$38,623

*Credit.*  
By amount paid Treasurer to June 1st, 1854. .... \$30,119  
By amount paid from June 1st, 1854, to June 1st, 1855. .... 8,504  
\$38,623

There is now due and unpaid Engineers' and Assistants' salaries, including engineering expenses .... \$8,500  
Due to other officers, including President, Secretary, Treasurer, Collectors, cash ... 2,150  
Due to work done in December, January, and February, by order of the Board ... 3,000  
Due Bank at Hopkinsville ..... 1,450  
\$15,000

Last year the Treasurer's books were not posted, in consequence of which we are unable to give exact amounts. That settlement has not yet been finally made, but will not (it is supposed) vary much from the above.



**Trans-Atlantic Submarine Telegraph.**

Believing the great enterprise of establishing telegraphic communication between America and Europe to be of universal interest, and that we shall be doing our readers a service in giving them any information or particulars in regard to it, we present a statement of the submarine telegraph cable, manufactured by Messrs. W. Kuper, & Co. of Camberwell, London. This cable is about one inch and a half in diameter, and contains six communicating copper wires—copper of all metals having the greatest capacity for conducting the electric current.

The method of constructing this cable has been described to us as follows: In the first place, each communicating wire is regularly and perfectly insulated in gutta serena, making it, when thus covered, about one-quarter of an inch in diameter; the six insulated wires are then placed in a circular form around a tarred hempen cord, and the spaces between them filled up with layers of the same material; after which, strands, likewise of tarred hemp, are bound firmly around the whole, and afterwards strong iron wires, of about the same diameter as the communicating wires, when insulated, are wound spirally around, and the cable is completed. The reason of the use of tar is, that it gives durability, as tar, in connection with iron has been found to act as a great preservative to the cable when immersed in salt water. It is a cable of this description which the Trans-Atlantic Submarine Telegraph Company propose to lay down to bring the eastern and western continents into telegraphic intercourse.

We have had occasion, heretofore, to refer to this company, and our readers may perhaps recollect we stated that they had obtained from the Danish Government an exclusive privilege, for one hundred years, of the right to establish telegraphic communication across Greenland, Iceland and the Faroe Islands, with the view of adopting this route in laying down the submarine cable, as it had not been shown satisfactorily that it was practicable, to transmit electricity sufficient for telegraph purposes through so great a length of cable—about two thousand miles—as would be required in running direct from Newfoundland to Ireland; whereas, by starting on the coast of Labrador, thence by way of Greenland, Iceland, and the Faroe Islands to the north of Scotland or Norway, there would be no distance from land to land requiring a cable of more than five hundred miles—a length which has been demonstrated, beyond question, to be perfectly feasible for telegraphic operations.

We are informed, however, that the company have not yet decided definitely which of the two routes to adopt, but await the results of extensive experiments and investigations now being made in this country and Europe, which will govern the decision as to which route, under all circumstances, will be best. As soon as this shall have been determined, immediate steps—befitting the magnitude of the enterprise—will be taken, and the work prosecuted to secure a successful termination by the early part of 1858.

In connection with the Trans-Atlantic Company, though possessing a separate and distinct organization, is the New York, Newfoundland, and London Telegraph Company, engaged in constructing a line of telegraph from St. Johns across Newfoundland, the Gulf of St. Lawrence and Cape Breton, to connect with the Nova Scotia and State of Maine lines to New York. This company confidently expect to have their line completed and in working order in August next.

We understand that the sub-marine cables, seventy miles in length, and containing three communicating wires, to be laid down in the Gulf of St. Lawrence, was shipped from London last month. This cable is constructed in the same manner as the one we have described; it is smaller, however, as it contains three instead of six conducting wires. The two companies have entered into a contract to connect with each other at St. Johns, Newfoundland, and to act in concert for fifty years. Upon the completion of the Trans-

Atlantic line, the Newfoundland company propose to lay down across the Gulf of St. Lawrence another cable like the one they are now about laying down, and thus make the capacity of their line equal to that of the Trans-Atlantic.—N. Y. Evening Post.

**East Tennessee Copper Mines.**

The decomposition of metalliferous lodes in their superficial portions is a matter often noticed and generally expected by the miner, and there is nothing anomalous in this respect in the East Tennessee Copper region. The commonly observed facts are these:—the predominating metalliferous ores which are wrought in mines, especially of silver, copper, and lead, are sulphurets, sulphur being the usual mineraliser, although arsenic and antimony are not unfrequently found in connection with sulphur in combination with these metals.—These ores are sometimes scattered irregularly through the gangue in fine particles, and sometimes arranged in nearly parallel bands or plates, which are separated from each other by belts of barren vein-stone. This is the normal condition of the veins at a considerable depth and some of them retain their original appearance and remain chemically unchanged up to the very surface. In most metalliferous lodes, however, it is found that the ores have undergone decomposition down to a certain depth, which rarely exceeds three hundred feet, and generally falls between fifty and one hundred feet. This decomposition is perhaps more common and more strongly marked in cupriferous lodes than in those of the other metals, although some argentiferous veins in South America exhibit it on a grand scale. The predominating ores of copper are the variegated ores and copper pyrites, both of which are combinations of sulphur with copper and iron, and their presence in the veins beneath is indicated on the surface by an outcrop of what the Cornish miners call *gossan*, a term which is generally adopted wherever the English language is spoken. This is a hydrated peroxyd of iron, usually much mixed with silicious and earthy matter and having a somewhat open and porous structure. Associated with this ferruginous mass the oxydised combinations of copper are often found occurring, at no great distance from the surface; among these, the carbonate and silicate are the most common, the phosphate and arseniate less so. The oxyds themselves and the native metal are among the products of decomposition. Sometimes these oxydised ores are very abundant in the upper part of a cupriferous lode, and are wrought with large profits, owing to their richness and the softness of the ground and the consequent facility in mining. In other localities, nearly all the copper has disappeared from the upper portion of the vein and only traces of these ores are found with the *gossan*. On sinking down into such decomposed veins a gradual change is found to take place in their character: the oxydised ores are replaced by the sulphurets; the ferruginous aspect of the lode disappears; the gangue becomes more solid, and the walls are better defined.

These changes in the upper portion of the sulphuret-bearing lodes are usually conceived to be the result of the air and water introduced from the surface and penetrating gradually downwards. Through their joint influence the sulphuret of copper and iron is gradually decomposed, and while the latter metal remains behind in the form of an impure hydrous oxyd, or *gossan*, the copper is also converted into an oxyd and may remain in that state, or combine with the sulphuric acid furnished by the oxydation of the sulphur of the original ore, or with any other acid which may chance to be present, thus giving rise to the numerous beautiful ores, most of which contain water, which are so common in the higher portion of cupriferous veins. The nature of the combinations resulting from any such decomposition and their relative quantity must, of course, depend on the quantity and quality of the ore originally in the lode, the proportion and kind of vein-stone, and probably still more on chemical and perhaps

electric agencies, the precise mode of action of which is as yet but imperfectly understood.

In the Polk county mines, these changes are displayed on a grand scale. The metalliferous veins which belong to the segregated class, are very wide and the decomposition has been very complete, so that the outcrop of *gossan* is very marked and in some places occupies a width of one hundred feet on the surface, consisting of large angular blocks of ferruginous rock piled up along the line of the vein. On sinking into this mass of ferruginous matter it is found to be tolerably soft, but at the same time so compact that excavations in it need but little timbering. If the shaft is commenced on the summit of the hill, it will be necessary to penetrate a hundred feet, perhaps, before any change in the nature of the vein is perceived. In the valleys the distance required for this purpose is much less. The depth at which the *gossan* terminates is nearly coincident with the water-level, or the point where, in sinking, water is found in considerable quantity. Here a layer or bed of copper ore is met with of very irregular dimensions, in some places occupying large bunches or pocket of many cubic yards in content, and in others forming only a thin stratum. This deposit of ore is quite as variable in composition as it is in dimensions. Its color is usually quite dark, and when rich in copper almost black. It is evidently a mechanical mixture of black oxyd of copper with sulphurets of iron and copper, sulphate of copper, oxyd of iron, silicious matter, and some manganese. The per centage yield of copper is usually low; but the purest portions contain from twenty to thirty per cent. of metal. This deposit of black ore is the object of exploration in the mines, and the only source, thus far, from which copper has been obtained in any quantity worthy of notice.

Beneath the black ore is the undecomposed portion of the vein, showing, in two or three points, where I was able to see it at the time of my visit (1853), a hard quartzose gangue with particles of copper pyrites scattered through it, and associated with a considerably larger quantity of iron pyrites. There seems no reason to suppose that the ore which originally existed in the upper part of the vein, from whose decomposition the black ore was derived, was any different in nature from that found below, although there may have been bunches of it considerably richer in copper. The deposit of black ore is insignificant in dimensions, compared with the mass of *gossan* which overlies it, and when we consider that a large portion of the copper which was once disseminated through perhaps a hundred feet of overlying vein-stone is now concentrated into the thickness of perhaps two or three feet, on an average, it will be seen that it is not necessary to suppose that the whole of that portion of the vein which is above the bed of black ore, "once consisted of yellow sulphurets of copper." Certainly there is no reason to believe that the black ore is a sulphuret of copper altered by heat. Apart from the consideration that it is not such a product, or mixture of products, as would be produced by any igneous action on copper pyrites, we can conceive of no way in which the effect of increased temperature could be limited to the upper portion of the vein, so that that only should undergo decomposition. That the changes in question are exclusively the result of a humid process, can as it seems to me, be hardly doubted. The concentration of the black ore in one stratum seems to have been due to the percolation of the surface water which was constantly carrying it downwards to the point where it was stopped by the solid portion of the vein.

That the subject of the decomposition of veins is one which is thoroughly understood should by no means be inferred from the preceding remarks: there is, on the contrary, much in these phenomena which has not, as yet, been satisfactorily explained. We know, indeed, that the changes of the sulphurets with oxydised combinations do occur, for we see them taking place under our own eyes, through the joint action of air and water



holding carbonic acid in solution; but why in some mining districts the metalliferous veins should be thus effected, while in others no change whatever has occurred, is less easily understood. Burat has called attention to this circumstance, and cited some instances in which the sulphurets remain entirely unoxidised up to the very surface. Thus the cupriferrous veins of Mouzaia, in Algiers, project out from the surface like walls, being more permanent than the adjacent rock, and the first blow of the hammer reveals the pyrriferous ore in its natural state. The same may be observed in this country. Throughout the Northern States the pyrriferous lodes remain apparently in their unaltered condition; or, at most, have undergone but little change and exhibit hardly any indications of gossan. The enclosing rocks are not at all softened or stained with ferruginous matter. As examples of this he would instance the great veins of Shelburne and Eaton, in New Hampshire; those of Hampshire county, in Massachusetts; and the St. Lawrence county mines in New York. In none of these has any marked change taken place near the surface. In one part of the Southampton (Mass.) lode, a few oxidised ores were found when the mine was first opened, but they were but small in quantity compared with the mass of the unaltered ore.—This state of things is a great drawback on the opening of the N. England mines since; the expense of sinking and driving in the hard granite and quartzose rocks is enormous. In North Carolina, South Carolina and Georgia, on the other hand, the gneiss and slates are often found over a great extent of territory completely decomposed and softened, so that they may be excavated with the pick and shovel, down to a depth of fifty or a hundred feet. I have known a shaft sunk in North Carolina in the rock to the depth of sixty feet in one week.

In the veins of that State, the principal, indeed, almost the only one near the surface, is an auriferous gossan resulting from the decomposition of iron pyrites, with which a little copper pyrites occurs intermixed. Of this latter ore, the quality in several instances seems to increase with the depth of the workings. If the veinstone is wholly quartzose the extent of the decomposition is much less than when it contains feldspathic or slaty portions. Thus in the McCulloch mine, in Guilford County, N. Carolina, there is a body of soft ferruginous ores containing a good amount of gold, which extends downwards more than one hundred feet parallel and co-extensive with this auriferous mass, which may be mixed with a shovel; there is a heavy bed of quartz with iron and copper pyrites scattered throughout it, in which no traces of decomposition can be perceived.

With regard to the East Tennessee veins, the practical question of the most important is: what kind of ore and how much of it is likely to be found in sinking into the undecomposed veins beneath the level of the black ore. This, we believe, can only be determined by actual trial. If in the cleaning out the deposit of ore, which lies upon the hard veinstone beneath, there should be bunches of cupriferrous ore found, the best of them should be opened by sinking on them, and there can be no satisfactory reason given, based either on analogy or on the appearances of the bodies themselves, why considerable quantities of the yellow ore of copper should not be found within a reasonable depth. Still it is not impossible, that, as these views do not exhibit the characteristics of true fissure veins, they may be found to have been richest near the surface and not to be capable of being worked with profit in the hard rock.—*Am. Jour. Science & Art.*

#### Grand Trunk Railroad.

The iron rails of the Grand Trunk Railroad from Toronto, west to Stratford 110 miles are now being laid. The castings for the Tubular Bridges on the road, have mostly arrived from England. The road is to be in operation in November.

#### Uses of Slag.

We avail ourselves of the earliest opportunity of presenting to the notice of the public the manufacture of a substance hitherto deemed and treated as almost wholly valueless, and now by the remarkable adaptation of science and skill, likely to prove of high economic and commercial value. The production of iron by the smelting furnaces of Great Britain has reached 8,000,000 tons annually; and by a moderate calculation, it may be assumed that for every ton of iron two tons of slag are formed, making an aggregate of at least 6,000,000 tons of this hitherto refuse material. Not only has this vast accumulation of slag been to the present time comparatively useless, but it has proved to be an incumbrance and source of heavy expense to the iron-masters; for it is calculated that a sum not less than £150,000 sterling is annually expended by and lost to them in removing the unsightly heaps from their premises, to be used as the most worthless material in mending old roads, and in filling gullies and other vacant places. We are, however, destined, before long, to witness this singular substance applied to economic purposes of the highest utility; and we venture to predict that it will be hereafter seen superseding the labors of the quarry, rivaling the most valuable marble, and even in beauty and brilliancy many of the precious stones, such as the agate, the jasper, the different classes of variegated marbles, and even the very attractive malachite. These anticipations are not uttered in the spirit of mere sanguine prophecy; they are the deliberate result of an inspection and careful examination of several specimens, fully sustaining the opinions we express, and already expressing their perfect realization.

This age of marvels has been termed the age of iron; posterity will recognize this as the century of the steam-engine and the railroad; nor will it be the less distinguished in future times by the triumph which iron had added to the speed, power, and capacity of ocean navigation. We are here, however, enabled to announce the triumph of a stranger success, from the application of human skill to a product; which, although associated with the manufacture of iron, has been hitherto rejected, at least in this country—the great source and centre of iron industry—as beneath the notice of the capitalist or speculator. If our transatlantic brethren owe to the parent country many arts and inventions which they have adopted, and in some instances improved, we must at least in this achievement of art, acknowledge them to be our predecessors; for the branch of manufacture now for the first time introduced in detail to the community in the British Isles, has been for some years successfully employed in the United States of America. From this practicable application it may be safely concluded that the value of the product is not a matter of merely speculative or theoretical inquiry, but that the manufacture is fully understood, the uses of the article clearly defined, the purposes to which it can be applied perfectly ascertained, and its importance to society unquestionably established.

With these introductory remarks, we proceed to notice a highly interesting paper read at the Society of Arts, on Wednesday last, by Dr. Wm. H. Smith, of Philadelphia, U. S. "On the Utilization of the Slags or Molten Mineral Products of Smelting Furnaces." The careful readers of this Journal cannot be altogether strangers to the subject; but we at the same time freely accord the merit of highly interesting novelty to the views and illustrations of Dr. Smith, as well in their practical as in their scientific bearing. The term "slag" has been defined by most standard authorities as the "refuse vitreous products of smelting furnaces" a definition which, being only applicable to slag in its altered conditions, after being rendered brittle and worthless by improper treatment succeeding its withdrawal from the smelting-furnace, he rejects as erroneous. In order to be fairly viewed and justly appreciated, slag must be considered both in its molten state, as a fused mineral product, and in the variety of combinations, forms,

and general properties it may be made to assume under scientific treatment, subsequent to its removal from the smelting furnace. The first general view which slugs thus considered naturally present, is that which relates to the philosophic character, which we briefly notice before passing to consider a more important aspect—viz: their commercial value.

In the wide range of geological science we find but few general phenomena which cannot be elucidated by the chemico-mineralogical transformations of the smelting-furnace. In that vast apparatus, by the study of existing operations, agencies, and laws the geologist finds a clue to the formation of the earth, an exponent of those laws and phenomena which have modified and determined the condition of the rocky crust of the globe.—When his cupola is built, and his blast started, the metallurgist is at once ready to daguerreotype or rather reproduce, although in miniature, the mountainous deposits and diversified formations of the igneous rocks; and if his researches verge upon chemical science in studying the agency of heat on the form, color, and other propensities of matter, he can observe the influences which determine the crystalline or amorphous structure of slag, and those wonderful chemical affinities which bind together in definite atomic proportions the elementary molecules of slag, however complex the combinations it may assume under the smelting operation.

The rocks of igneous origin are well known to the scientific world, and highly appreciated by the practical architect; they are the rocks of which Nature builds her loftiest mountains, and man constructs his most enduring monuments. Many of the mountain ranges even of this island are composed of those strata which have been thrown up and altered in mineral aspect by molten masses and veins presenting no traces of decomposition, and which, like slag, are of igneous origin. Granite, syenite, protogine, serpentine, porphyry, basalt, felspar, greenstone, lava, etc., are amongst the varieties of the igneous rocks; and the industrial purposes to which they are applied are numerous, and of primary importance. If we admit the existence of some deep seated source of heat to which these rocks owe their origin, the analogy between them and the products of smelting furnaces, which are composed of the same element, fused by the same igneous agency, and modified in form and color, and character, by the same chemical laws, a doubt cannot be entertained of the value of this artificial mineral product, as combining in itself qualities possessed and divided amongst many natural varieties. Selecting the slags of iron furnaces they will be found composed of silica, lime, and alumina, as their chief ingredients, in combination with traces of magnesia, protoxide of iron, sodium, potassium, carbon, manganese, sulphur, titanium, and phosphorus. According to the analysis of M. Berthier, the slag of the Dowlais furnaces from which some of the manufactured samples exhibited were made, consists of silica 40.4; lime, 38.4; alumina, 11.2; magnesia, 5.2; protoxide of iron, 3.8; and a trace of sulphur.—Slags from other iron furnaces in France and England presented similar analytical results varying slightly as to the relative quantities of manganese and sulphur; while a mean average of the anthracite furnaces of America shows their slag to consist of silex 51, lime 21, and alumina 15. Prof. Phillips, in his mineralogical work, observes, "If we look more narrowly into the composition of the crust of the globe, as consisting chiefly of earths and earthy materials, we find that only three of the earths which have been discovered—viz: alumina, silica, and lime are found to constitute its great bulk." Regarding, therefore, silica, lime, and alumina as the chief constituents of slag, we are furnished with the very ingredients out of which Nature has fashioned and annealed nearly all the valuable building materials of the mineral kingdom.

In the utilization of slag for commercial purposes, by the processes of casting, pressing, rolling, moulding, and annealing the facilities afforded by



the extremely liquid molten state to which the slag is reduced in the smelting-furnace are availed of, so that by suitable appliances any desired form, color, or texture can be imparted. We here adopt the descriptive language of Dr. Smith: "According to the treatment it receives, slag can be rendered brittle or tough, hard or soft, compact or porous, rough or smooth. It can be cast into as great a variety of forms, solid and hollow, as iron itself, with the superior advantage of being susceptible of the admixture and blending of colors, so as to render it equal in brilliancy to agate, jasper, malachite, the variegated marble, and other more valuable varieties of the mineral kingdom. When properly annealed, it can be made to acquire a surface, or texture, at least ten times as durable as that of marble, and is susceptible of a polish equal to agate or cornelian. As a building material, slag can be readily adapted to any variety of architectural design, from the simple slab to the most ornate and complex decoration; whilst its beauty and durability chiefly recommend it as an article of luxury."

Dr. Smith entered into a comparison of the relative expense of the manufacture of clay bricks as compared with that of bricks or blocks of slag and he reminded us that in making bricks of the latter, the raw material cost less than nothing, inasmuch as the iron-master saves by its utilization the heavy expenditure now attendant upon its removal from the furnace premises. In fusing slag for the operation of casting no expense is incurred, inasmuch as the item of expenditure is charged by the metallurgist to the metallic and not to the earthy products of the smelting operation; whereas, in making bricks of clay, the raw material has an intrinsic value, while the consecutive operations of digging the clay, preparing it for use, and transporting it, added to the process of pressing and annealing, consume at least twice as much time and labor as are employed in working slag. "From these simple yet clear data," observed Dr. Smith, "we can fairly infer that the cost of making clay brick will be double that of making block tiles, or more decorative and valuable articles, from slag. By extending this calculation to other products such as marble slabs, columns, carved architectural ornaments of stone, &c., and in our estimate contrasting the plastic power of fusion available in slag with the laborious hewing and fashioning by mechanical means required for blocks of marble and other stones, we may arrive at still more satisfactory results in proving the commercial value of slag."

Dr. Smith then submitted to the meeting the following estimate of the cost of manufacturing 40 tons of slag per day, in which was also calculated the number of square feet contained therein, with the value of the article when manufactured, thus furnishing a close approximation to the real economic commercial value of slag. A direct calculation, however, based upon practicable manufacturing operations, may, perhaps, prove still more satisfactory; and the following estimate of the cost of manufacturing 40 tons of slag per diem, to which is added the number of square feet contained therein, and the value of the manufactured article, may be regarded as a safe approximation to the real economical value of slag. In manufacturing 40 tons of slag daily, we require an outlay for building and machinery as follows: Cost of erecting 40 ovens, £1,600; steam-engine, £1,500; casting-tables, £200; rolling do., £200; moulds, £300; sheds, £300; cars, or refining furnace, £300; apparatus for machinery, £300; contingencies, wear and tear, &c., £300—£5,000.

Daily expenditure in wages, &c., for twenty-four hours—four furnace men, eighteen moulders, eleven firemen, four stokers, eight packers, at 4s. per day, £9; overlookers, £1 10s.; general superintendent and office, £3 10s.; 8 tons of coal, at 6s. 6d., £2 12s.; wear and tear, £4; freight, at 15s. per ton, £30—£40 12s. per day.

There are 180 square feet of material of 1 inch thickness to the ton, and 120 square feet at 1 1/2 inch; 40 tons would produce 7,200 feet at 1 inch,

and 3,800 feet at 1 1/2 inch thickness. Grinding and polishing cost 3d. per foot extra, or £2 5s. per ton at 1 inch, and £1 10s. at 1 1/2 inch thickness. If the manufactured slabs, or tiles were sold in the proportion of one-fourth polished, and three-fourths rough, and the former realized 1s. 6d. per foot and the latter only 4 1/2d., then 40 tons at 1 inch would produce £236 5s., and at 1 1/2 inch would produce £167 10s.; or, 100 tons would produce, at 1 inch, £390 12s. 6d.; ditto at 1 1/2 inch, £393 15s. Commercial value of 100 tons at £464 7s. 6d. Value of annual product, at 500 tons per day, £668,562 10s. Commercial value of 100 tons at 1 1/2 inch, gross, £393 15s.; less cost, £126 10s.—£267 5s. Value of annual product, at 500 tons per day, £400,875.

In this calculation such a minimum price was selected as would show the value of the material even when applied to the most ordinary purposes; and, accordingly, it is here estimated in its manufactured state, when polished, as worth 1s. 6d. per foot. The estimate, however, varies, essentially according to the form in which the material is cast, the ornaments, patterns, and variety of color imparted to it, and the uses for which it is designed; thus when cast into the form of table slabs, or architectural ornaments its value varies from 6s. to 20s. per foot, while the cost of the manufacture is but little augmented.

The samples which were exhibited and examined by the auditory excited general admiration, from the closeness of the texture, the height of the polish, and the beauty and apparent durability of the articles. Some of them had been made from the slags of American furnaces, others from those of the furnaces of France and England; and it was evident, from their inspection, that the commercial value expressed in the above calculation was by no means extravagant. To the vast quantity of iron slag produced in England may be added the amount also yielded in the reduction of ores of copper and lead, without considering zinc and other metalliferous sources, the supply will, accordingly be found sufficient to create a new channel of productive industry, which may possibly equal in extent, interest, and importance, any single one that now affords employment to the capital and industry of civilized nation.

During the discussion that followed, explanations were given by Mr. Cameron, and by Mr. Davison, the manager of the Dowlais iron-works, as to the simplicity of the process, which realized such interesting and important results; and the statements of Dr. Smith were in every respect practically confirmed. In answer to inquiries as to the probable effects of the atmosphere, of climate, and of time, upon the substance, Dr. Smith stated that it had been tested by the several mineral acids, without any sensible effect; and he recently examined a flagway of an American city which had been covered with flags cast from slag, and although they had been in use for four years, they did not present the slightest visible appearance of being worn. We can very well imagine that the great iron-masters of England, and other proprietors of smelting furnaces, although anxious to relieve themselves and their premises from the accumulations of slag, have their capital and time so occupied in their own mighty operations, as not to be anxious to embark in another extensive branch of industry. They will, however, be doubtless highly gratified to co-operate with those whose activity and enterprise shall incline them to devote their energies to the manufacture in question; and both have before them the example of America, in which country it has already proved successful. When we consider the commercial spirit which characterizes the mercantile mind of England—when we reflect upon the large masses of unemployed capital in this country, and see a source of secure and popular investment thus presented at home, we cannot hesitate to express our conviction that jointstock associations will speedily be formed, to render this singular product of our great furnaces available for the purposes of practical utility, domestic elegance, municipal improvement, and ornamental art.

#### Sacramento Valley Railroad.—California.

Extract from a letter received by last steamer from the contractors, Messrs. Robinson, Seymour, & Co., to their associates, Seymour, Morton & Co., of New York.

"It gives us pleasure to state that matters for the future look more promising than the past has been. The monetary affairs of the country are being rapidly settled down, rates of interest are decreasing, and money is more plenty now in this State than ever known before. Confidence is being rapidly restored, and one railroad is attracting not a little of the public attention.

The clipper ships 'Winged Racer,' and 'Dashing Wave,' have both arrived, and discharged our materials in good order, there being but \$125 of reclamations against the vessels for damage or breakage of our materials. All of our cars, one engine, together with spikes, chairs, turn-tables, frogs, switches, &c., are here; or rather all are at Sacramento (we having shipped them up to that place,) and yesterday we had five vessels at one time discharging our materials at Sacramento.

Our mechanics are at work assorting the stuff, preparatory to erecting it; and we shall have an engine and train of cars ready to run during July.

The grading on the entire first division is nearly completed. The trestle-work is being framed, preparatory to erection. Thirty-five thousand cross-ties have been delivered, and the balance are being delivered, at the rate of 1,000 per day. Six hundred tons of rails are now here, and we are trans-shipping them up to Sacramento. In fact, everything is moving forward at this time with vigor, and unless we meet with some obstacle more than we can now foresee or guard against, we shall have the 1st division (23 miles) in operation during September.

#### Keokuk and Fort Des Moines Railroad.

The Keokuk, Fort Des Moines, and Minnesota Railroad Company was organized in September, 1853, under the General Law of the State of Iowa.

The projectors of the enterprise believed that Keokuk the south-eastern terminus of the road, situated at the foot of the lower rapids in the Mississippi river, 200 miles from St. Louis—must become the gate-way to Iowa for the products of the State, designed to a Southern market, as well as for their groceries and iron, that find their way to the North-west by way of the Mississippi river. They were also satisfied that the progress of the country was such as to warrant the construction of a railroad through the Des Moines valley which comprises several of the most populous and wealthy counties of Iowa.

Starting at Keokuk their purpose is to construct a railroad as fast as practicable in or near the valley of the Des Moines river to Fort Des Moines, and thence northerly towards the great bend of the St. Peter's river and St. Paul. During the spring and summer of 1854, preliminary surveys were made as far as Fort Des Moines, which demonstrated the feasibility of the project. In February, 1855, the permanent location was made on the first division, extending 38 miles to Benton's port. During the following May, a contract for graduation was made with Messrs. Roberts, Holmes & Co., and the work is now fairly



under way, with good prospects for the running of cars during the Fall of 1856.

The annual meeting for election of Directors is held in June.

The office of the company is at Keokuk, Iowa.

The following gentlemen constitute the present Board of Directors:

Hugh T. Reid, William Leighton, Thomas W. Clagett, D. W. Kilbourne, Edward Kilbourne, C. Parsons, C. Peny, Wm. S. McGavic, Arthur Bridgman, John McCune, and I. M. Hiatt—all of Keokuk. Hugh T. Reid is President; William Graham, Treasurer; C. Conn, Secretary; S. Dwight of Eaton, Chief Engineer; and A. A. Rice, Principal Assistant Engineer.

#### Cleveland and Mahoning Railroad.

From a circular issued by this company, on the 23rd ult., we learn that 70 miles of their road will be put in operation the present year. This will extend as far as Youngstown. The laying of the track is already progressing, about 2,000 tons of iron having been delivered, and enough purchased to complete it to that point. The company have closed negotiations for the sale of an issue of first mortgage bonds, to supply the iron and equipment for the line. It is believed that when completed to this point, the road will pay handsome dividends on its cost.

The remaining distance to New Castle, 18 miles, is expected to be put under contract this fall—to be completed early in 1856.

#### Lansing and Saginaw Railroad.

A Detroit exchange mentions that sufficient stock in the above road has been taken at Saginaw to secure the organization of the company under the General Railroad Law of the State, so far as that end of the route is concerned. Saginaw possesses excellent facilities for becoming a large commercial emporium; but this is not the natural outlet for the business of Lansing. Detroit is its proper port of entry. However, if the good people of that easy going place prefer to take the thing in a Rip Van Winkle fashion, and let what is properly their own legitimate business seek other channels, we suppose no outsiders have any right to disturb their slumbers; so we wish them "pleasant dreams."

#### Public Works of Pennsylvania.

The main line of these works was, in accordance with previous notice, offered for sale, on Wednesday, the 25th inst., the minimum price fixed by the Legislature being \$7,500,000, or less than twenty per cent. of their cost. There were no bidders, however, at the above price. The State must thus continue to shoulder the whole of her debt with the interest, or offer the works at a lower price, which we presume she will hardly do.

#### North Missouri Railroad.

Mr. Lawrence Kellett, resident engineer on the sub-division of the North Missouri Railroad from Danville to Mexico, is now in our place, where he has located himself, and will remain during the construction of the road. He is employed now in straightening up, and ascertaining the fill and cuts necessary to be made for the grading of the road.

Mr. Kellett is an energetic and persevering man. We feel confident he will push it forward to its completion.

We understand the laborers have pitched their tents this side of Danville, where in a short time they will commence work.

It is now beyond a doubt, that the North Missouri Railroad will be completed to Mexico by September, 1856.

We learn from Mr. Kellett, that the hands will commence work at this place about the last of the present month.—*Mexico Ledger.*

#### Charles B. Stuart,

Consulting Engineer, 23 William str., New York.

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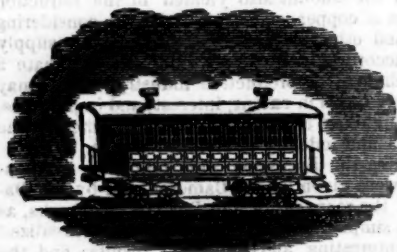
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and all others interested, to the fact that his establishment possesses unrivalled facilities for the manufacture of  
Passenger, Emigrant, Smoking, Baggage, Freight, Cattle,  
Coal, Gravel, Lumber and Hand Cars,  
together with BAGGAGE BARROWS, FREIGHT TRUCKS,  
and in short EVERYTHING necessary to the full and perfect equipment of our modern railways.

#### THE CAR MANUFACTORY

is located on the line of the New York and Erie, Elmira and Williamsport, and Canandaigua and Elmira Railroads, and in the midst of one of the best

#### TIMBER AND IRON REGIONS

in the State, where every facility exists for procuring MATERIALS of the first quality, and for shipping Cars to any and every part of the United States and the Canadas.

Having had over twenty years' experience in the business, and sparing no time, expense or trouble in procuring every improvement connected with the art, I have no hesitation in saying that the work manufactured and turned out by my establishment, for durability, perfection and finish, will compare favorably with that of any other part of the country, and that it cannot fail to give entire satisfaction. Orders are respectfully solicited. W. E. RUTTER.

N.B.—Lumber for Car Manufacturing purposes, to any amount, of superior quality, will be furnished at short notice on reasonable terms, and shipped to any given direction. 29tr W. E. R.

A CIVIL ENGINEER who has been employed over 13 years on location and construction of railroads both in the United States and Canada (with good references) is desirous of an engagement. Address "Civil Engineer" this office. 1m29

WANTED A DRY EXCAVATOR.—A line stating particulars and price, and where the machine may be seen, will be immediately attended to if addressed WILLIAM O'BRIEN,

82 Schermerhorn street,  
BROOKLYN, N. Y.

2t29

#### Charles L. Schlatta,

Chief Engineer Brunswick and Florida Railroad,  
Brunswick, Ga.

#### Locomotive for Sale.

FOR SALE a first class Engine, Cylinders 16x22, Driving Wheels 6 feet, Copper Flues, Wrought Iron Frame and Pedestals, Boiler 46 inches diameter, finished throughout in the best manner, Tender on 8 wheels, 2,000 Gallons, built for a gauge of 4 feet 8½ inches. Will be sold on favorable terms.

Apply to BREESE, KNEELAND & CO.,

49 William st.,  
or at the New York Locomotive Works, Jersey City, where the engine can be seen.  
NEW YORK, 16th July, 1856. 29tr

#### To Railway Contractors.



To be Let, the clearing, grading, construction, furnishing, &c., of 200 to 300 miles of railway at very remunerative prices. None need apply but principals, and those having ample command of capital, as part of the payment will have to be taken in stock, which should not be too hastily pressed on the market.

Address Z. Y. X., Office of Scientific American,  
Fulton st., New York. 1t.

#### Wm. S. Rowland & Co.,

RAILROAD IRON

AND

#### Commission Merchants,

NEGOTIATORS OF CREDIT FOR RAILROAD COMPANIES,

No. 6 WALL STREET,

25tr

NEW YORK.

#### United States Railroad Car Brake Company,

No. 62 BEAVER ST., NEW YORK.

President, Secretary and Treasurer,  
GOUVERNEUR MORRIS. NORMAN S. WASHBURN.  
General Agent—WILLIAM G. CREAMER.

#### Directors.

GOUVERNEUR MORRIS, HENRY SHELLEN,  
JOHN M. HOPKINS, WILLIAM MORRIS,  
WILLIAM G. CREAMER.

We now offer to Railroad Companies the cheapest, simplest, and most efficient method of enabling the engineer of a locomotive to apply the entire brakes of a train that has ever been made. We have in our office a full-size model showing the operation of this invention perfectly, to which we ask the attention of all persons interested in railroads. It is needless to describe the advantages of giving the engineer the power to apply the brakes. Suffice it to say there is hardly a railroad accident occurs but the adoption and proper understanding of this invention would totally prevent or greatly mitigate. Its immediate adoption is demanded as well by the interests of the Company as the safety of persons and property conveyed by railroads. We offer every facility to Companies desirous of testing for themselves the advantages of this method. For circulars and other information apply at the office of the Company. 25tr

W. G. CREAMER, General Agent.

#### Railroad Iron.

THE undersigned having leased the extensive works of the Cambria Iron Company, situated at Johnstown, Cambria County, Penna., and purchased all their personal estate are now prepared to execute at short notice orders for rails of any required pattern or weight, on the most liberal terms.

WOOD, MORRELL & CO.,

Johnstown, Cambria Co., Pa.

1y22 Philadelphia Office: North Penna. R. R. Building

#### Theodore D. Judah,

Chief Engineer, Sacramento Valley Railroad,  
Sacramento, Cal.

1y23

#### AUBURN STEAM FORGE,

AUBURN, N. Y.—CHAS. RICHARDSON, Proprietor.

Manufactures

#### Car and Locomotive Axles,

STEAMBOAT AND MILL SHAFTS,

CRANKS, CRANK PINS, CONNECTING RODS,

Wagon Axles, Pick Axes, Crow Bars, &c., &c.,

of the best assorted Scrap Iron, and WARRANTED. 10.



## CAR, LOCOMOTIVE, AND TENDER SPRING MANUFACTORY.

PHILADELPHIA, March 1, 1852

We beg leave to present the following Certificates to the consideration of **Railroad Companies and Car Builders**, for the quality of **CAR, LOCOMOTIVE, AND TENDER SPRINGS** manufactured by us.

At the same time we would inform Railroad Companies and Car Builders that we have extended our works, and will be happy to execute any orders for Steel Springs for Cars, Locomotives, or Tenders, of any design or pattern which they may see proper to intrust to us, at the lowest prices, and on terms which will prove satisfactory.

From our long experience as Spring manufacturers, we are enabled to supply Railroad Companies with **Spring Steel**, of superior quality, converted from **Swede Steel Iron**.

The iron being imported direct from Stockholm by ourselves, and Converted and Rolled under our supervision.

Yours respectfully,

**JAMES JEFFRIES & SON,**  
REAR OF GIRARD HOUSE.

Philadelphia, Feb. 27, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries as to the character of the Springs furnished by you for Locomotive Engines and Tenders, take pleasure in saying that I have found them, both in material and workmanship, superior to anything else of the kind that ever came under my notice. I have occasionally tried the Springs of other manufacturers, but in testing their elasticity and strength with the apparatus I have for that purpose, I have found none combining the requisites of a good spring, viz., lightness, elasticity, and durability, in so eminent a degree as yours.

I am using them exclusively under the Engines and Tenders of my make, and can safely recommend them to others.

Yours truly, M. W. BALDWIN.

Office, Penn's Rail Road Co.  
Philadelphia, Feb. 26, 1852.

This is to certify, that James Jeffries & Son manufactured nearly all of the Steel Springs used on the Georgia Rail Road while I had charge of that work, and have also furnished those that have been used on the Pennsylvania Rail Road. The character of their work has always given entire satisfaction, and I cheerfully recommend their Springs to the patronage of Rail Road Companies and Car Builders.

J. EDGAR THOMSON,  
Chief Engineer and President Penn's Rail Road Co.

Office, Phila, Germantown & Norristown R. R. Co.  
February 28, 1852.

This is to certify, that I have used the Steel Springs manufactured by Messrs. Jas. Jeffries and Son, for the Locomotives, Passenger, and Freight Cars of the above Road, during the last 13 years, and have always found them good and efficient Springs, giving general satisfaction.

R. FRENCH.

Philadelphia, Feb. 23, 1852.

This is to certify, that we have used Car Springs made by James Jeffries & Son, for the period of twelve years, and find them a very superior article, so much so, that we shall always continue to use them.

DUTILL, HUMPHREYS & CO.  
Proprietors of Union Line of Trans. from Phila to Pittsburg

Philadelphia, Feb. 27, 1852.

Messrs. J. JEFFRIES & SON,

Gentlemen: We have been using your Steel Springs under our Cars for a number of years, they have given entire satisfaction, and have proved themselves superior to any other that we have used. Their good qualities should commend them to any who have need of an article so difficult to obtain perfect.

Yours truly, HARRIS & LEECH,  
Proprietors of Leach's Trans. Line from Phila to Pittsburg.

Richmond, Jan. 6, 1852.

Messrs. JEFFRIES & SON: It affords me pleasure to say, that after some six or seven years' trial of your Springs, I find them superior to any other Springs we have used on our road, and are so well satisfied with their merits as to continue the use of them.

I am, very respectfully yours,

THOMAS SHARP,  
Superintendent R. F. & P. R. R.

Office, R. & P. R. R. Co.  
Richmond, Va., Jan. 6, 1852.

To Mr. THOMAS JEFFRIES,

Dear Sir: I take pleasure in stating that the Springs made by the firm of which you are a member, and which I have been using for the last eight years on Locomotives and Tenders, and also, on Passenger, Freight, and Coal Cars, have given the utmost satisfaction, and I consider them superior to any I have received from other establishments during the above period, and shall still continue to send you our orders for all we may want.

Very respectfully yours,

THOMAS DODANEAD,  
Superintendent R. & P. R. R.

Superintendent's Office, C. R. R.  
Savannah, Ga., Jan. 21, 1852.

This will certify, that Car and Locomotive Springs made by Messrs. James Jeffries & Son, of Philadelphia, have been in use on this road for a number of years, and have given entire satisfaction.

W. M. WADLEY,  
Superintendent.

The house of James Jeffries & Son, of Philadelphia, has made us a good many Car and Engine Springs, and I take great pleasure in stating that they have always turned out well, and I believe their work can not be surpassed by any in the country.

H. D. BIRD,  
President.

Office, Sup't T. & M. Power, So. Ca. R. R. Co.  
Charleston, Jan. 21, 1852.

This is to certify, that the South Carolina Rail Road Company have for a number of years been using the Steel Springs manufactured by Messrs. J. Jeffries & Son, of Philadelphia, for their Locomotive Engines, and for both Passenger and Freight Cars, and I take pleasure in stating that they have given entire satisfaction, and recommend them to the patronage of all Rail Road Companies requiring such articles.

J. D. PETCH,  
Sup't Trans. & Motive Power So. Ca. R. R. Co.

Philadelphia, Feb. 27, 1852.

This is to certify, that I have used Springs made by James Jeffries & Son for the period of five years, and consider them equal, if not superior to any others that I have had in use.

JOSEPH S. LEWIS,  
Pennsylvania & Ohio Line.

Georgia Rail Road,  
Augusta, Ga., Jan. 1, 1852.

To whom it may concern.—We have used Springs manufactured by Messrs. James Jeffries and Son, for the Locomotives and Cars of our road for the last ten years, and have no hesitation in recommending them as having given general satisfaction.

F. C. ARMS,  
General Superintendent.

Macon & Western Rail Road,  
Macon, Ga., Jan. 25, 1852.

Messrs. J. JEFFRIES & SON,

Gentlemen: This Company has for several years purchased and used, under Cars and Engines, Steel Springs manufactured by you. We have also purchased from other manufacturers and made Springs ourselves.

Yours have given entire satisfaction, and have proved themselves equal, if not superior to any we have used. Their excellent qualities should commend them to all who have need of an article so difficult to obtain in perfection.

Yours, very respectfully, EMERSON FOOTE,  
Superintendent.

Macon, Ga., January 24, 1852.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: In reply to your inquiries in reference to Steel Springs, I take pleasure in saying, that I have been in the way of observing Springs in use on Cars and Locomotives, on various Rail Roads, for seventeen years past, more particularly on the Central Rail Road of Georgia for eight years past, and during said seventeen years have been practically acquainted with your make of Springs, and I have no hesitation in saying, that your Springs with open work are the best Steel Springs I have ever used or seen in use.

Yours, respectfully, GEO. W. ADAMS,  
Superintendent S. W. R. R. of Georgia.

Transp. Office, W. & A. R. R.  
Atlantic, Jan. 31, 1845.

Messrs. JAMES JEFFRIES & SON,

Gentlemen: This road has used the Springs made by your firm since its first opening, under both Engine and Cars, and they have given entire satisfaction to all.

Very respectfully, WM. D. FULTON,  
Superintendent.

Montgomery & West Point R. R. Co.  
Montgomery, Ala., Feb. 23, 1852.

This may certify, that this Company have been for years using, both under their Engines and Cars, Springs from the manufactory of James Jeffries & Son, of Philadelphia, and are so well satisfied of their superiority that we can confidently recommend them to all companies in need of Springs.

SAMUEL G. JONES,  
Engineer and Superintendent.

## RAILROAD BONDS

FOR SALE.

OFFICE CENTRAL R. R. CO. OF NEW JERSEY,  
No. 69 Wallst., New York, June 25, 1855.

BY virtue of a resolution of the Board of Directors this day passed, the Finance Committee offer to the stockholders of the Central Railroad Company of New Jersey, at 85 per cent., one million five hundred thousand dollars of seven per cent. coupon bonds, redeemable May 1st, 1875, convertible into stock of the company until May 1st, 1860, and entitled to the security of any mortgage that may be hereafter laid on the railroad from Elizabethport to Phillipsburg on the Delaware River. The bonds will be issued in sums of \$1,000 and \$500 each, and will be registered on the books of the company in the name of the holder or as a bond payable to bearer, as the convenience of holders from time to time may require. It may be unnecessary to call the attention of stockholders to the prospects of this road, or to repeat, that it is the main Eastern outlet of three lines, all in rapid course of development; one leading to the Lackawanna coal mines and Oswego, on Lake Ontario; one to the Lehigh coal fields and ultimately to Erie, Cleveland and the Great West; and one requiring the construction of only 33 miles of road to pierce the centre of the Schuylkill Coal Basin, and make a direct, unbroken line to Pittsburg and Wheeling; nor need they be reminded that these lines are all free from break of gauge or trans-shipment; nor of the remarkable co-incidence, that by this road the three Anthracite coal regions are each brought within 135 miles of New York, there not being five miles difference in distance between any two of them.

The partial opening in June and anticipated completion in July, of the Lehigh Valley Railroad, with the probability of the opening of the Warren and Lackawanna Roads in the Fall, render it imperatively necessary that this Company should proceed vigorously with the construction of the second track. With the work already accomplished, it can be economically completed in two seasons, without interfering with the business of the Road, and at a great saving in expense over what it would cost if left till the Road is overwhelmed with the business.

Stockholders will be entitled to subscribe for bonds to the extent of three-fourths of the stock held by them in the books of the Company. Subscriptions for greater or less amounts can be made, subject in the former case to reduction or rejection by the Committee, if the subscriptions shall be in excess of the whole amount of bonds offered. Subscriptions will be received at the office of the Company, No. 69 Wall st., till the 14th July, inclusive; after which the allotment will be made.

TERMS.—Ten per cent of the par value of the bond will be payable on notice of acceptance of bids, ten per cent. on the 10th August, and the balance in installments of ten per cent. not oftener than once in thirty days as required by the Company. The ninth call will be five per cent., when the bonds for the discount will be issued. As soon as the same can be prepared, bonds will be issued, in exchange for the installment receipts. Subscribers can have the option of paying in full, at any time, upon giving notice at the office of the Company. Non-payment of the installments will give the Company the right to forfeit the unpaid portion of the subscription and the discount allowed on the bonds.

JOHN T. JOHNSTON,  
JOHN C. GREEN,  
WILLIAM E. DODGE,  
ADAM NORRIS,

Finance Committee.

## The Troy Iron Bridge Co.

ARE prepared to erect Iron Bridges or Roofs, or any kind of bearing trusses, girders, or beams, to span one thousand feet or under, of any required strength, in any part of the country. Their bridges will be subjected to severe tests, and can be built for about the price of good wooden ones. Address

BLANCHARD & FELLOWS, Troy, N. Y.

2 April 1st, 1846.

**James Herron, Civil Engineer,**  
OF THE UNITED STATES NAVY YARD,  
PENSACOLA, FLORIDA,  
PATENTEE OF THE  
**HERRON RAILWAY TRACK**  
Models of this track, on the most improved plan may be  
seen at the Engineer's office of the New York & Erie Railroad

**Meigs & Greenleaf,**  
Office No. 23 William st.  
WILL give prompt attention to the purchase and sale of  
STOCKS, BONDS, &c., strictly on commission. Orders  
received carefully solicited.  
CHAS. A. MEIGS, late Cashier Am. Ex. Bank.  
A. W. GREENLEAF, late of No. 2 Wall st.  
References: American Exchange Bank, Bank of the Re-  
public, Metropolitan Bank, Merchants' Bank. 1y18

**For Sale.**  
BY the Baltimore and Ohio Railroad Company, 24 crate cars  
adapted to railroad purposes, which will be sold at a rea-  
sonable price. For further information, apply to  
SAMUEL J. HAYES,  
M. of M., Baltimore and Ohio R. R. Co.,  
or, BRIDGES & BRO.,  
64 Courtland st., New York.

**To Railroad Companies.**  
**COLLINS' PATENT**  
**VENTILATORS,**  
FOR  
Ventilating all kinds of  
PUBLIC AND PRIVATE BUILDINGS  
Railroad Cars, Depots, &c.

THE Subscribers would invite  
attention of the public to the above  
celebrated Patent Ventilator. This Ven-  
tilator is the best one now known of, for  
giving a pure air in rooms, and ejecting all foul air. It has been  
adopted by all the principal Railroad Companies and Car Fac-  
tories, and is extensively used for private dwellings, and for the  
cure of smoky Chimneys cannot be excelled. Manufactured and  
for sale by

**BAKER & WILLIAMS,**  
No. 406 Market st., Girard Row,  
Sole Agents for Pennsylvania.  
Refer to **STRICKLAND KNEASS,**  
Principal Assistant Engineer P. R. R. Co.  
**OLIVER W. BARNES,**  
Principal Assistant Engineer P. R. R. Co.  
**G. R. STRAUGHAN**  
Supt. and Eng. Ohio and Indiana R. R.  
**E. MILLER,**  
North Pennsylvania R. R.  
May 23, 1885

**ELLIOTT & CO.,**  
NO. 4 WILLIAM STREET, NEW YORK.  
(ONE DOOR SOUTH OF BEAVER STREET.)  
**RAILROAD AGENTS**  
AND  
**COMMISSION MERCHANTS,**  
PURCHASE AND SELL ON COMMISSION  
**FOR RAILROAD COMPANIES.**

**RAILROAD IRON**—They contract upon the most  
favorable terms for the delivery of Rails either on  
board ship in England or in the United States.  
**LOCOMOTIVES & CARS**—Having connection with some of  
the best builders, they furnish the best at the lowest rates for  
cash or good paper.

**WHEELS & AXLES**—They are Agents for two of the best  
Forges, and one of the first Wheel Makers, and can supply  
orders with promptness and to give satisfaction.

**CHAIRS & SPIKES**—They are authorized to sell wrought  
and cast iron chairs and spikes from the best known makers at  
the lowest rates.

All orders will be promptly filled and at the lowest market  
prices.

**CAR FINDINGS in variety.**  
Railroad Secretaries are particularly requested  
to forward by mail copies of their Reports from the first  
ELLIOTT & CO.,  
No. 4 William st., N. Y.

**Machinists' Tools.**  
A SUPERIOR CLASS,  
DESIGNED particularly for Railroad work, manufactured  
by **L. E. TING & CO.,** (late ALBION, TING & CO.)  
October 7, 1882. **LOWELL MASS.**

**To Land Claimants in Texas.**  
If you have any business in relation to Lands in Texas address  
W. B. SPOON, Clarksville, Red River County, Texas, and it  
will be attended to promptly. 1y

## New York and Erie R. R.

On and after Monday, July 22, and until further notice

**PASSENGER TRAINS**  
will leave Pier foot of Duane street  
as follows, viz:—

**DUNKIRK EXPRESS**, at 6 a.m. for Dunkirk.  
**BUFFALO EXPRESS**, at 6 a.m. for Buffalo.  
**MATL**, at 8 1/4 a.m. for Dunkirk and Buffalo, and intermediate  
stations. Passengers by this train will remain over night at  
Owego, and proceed the next morning.

**ROCKLAND PASSENGER**, at 3 p.m., (from foot of Chambers  
st.) via Piermont for Suffern's and intermediate stations.  
**WAY PASSENGER**, at 4 p.m., for Newburgh and Otisville,  
and intermediate stations.

**NIGHT EXPRESS**, at 5 1/2 p.m. for Dunkirk and Buffalo.  
**EMIGRANT**, at 6 p.m., for Dunkirk and Buffalo and inter-  
mediate stations.

**STEAMBOAT EXPRESS**, every day, excepting Saturdays, at  
6 1/2 p.m., for Dunkirk and Buffalo and intermediate stations.  
On Sundays Two Express Trains—at 5 1/2 and 6 1/2 p.m.  
These Express Trains connect at Elmira, with the Elmira &  
Niagara Falls Railroad, for Niagara Falls, at Buffalo and Dunkirk  
with the Lake Shore Railroad for Cleveland, Cincinnati,  
Toledo, Detroit, Chicago, etc., and with first class splendid  
steamers for all ports on Lake Erie.

20.11. D. C. McCALLUM, General Supt.

## Philadelphia, Wilmington & Baltimore Railroad.

**UNITED STATES MAIL ROUTE TO THE  
SOUTH AND WEST.**

Trains will leave the Southern and Western Station, corner of  
Broad and Prime streets, Philadelphia, at 8 30 am. 12 45, 3 and  
11 pm.

**FARE BY THROUGH TICKETS TO THE SOUTH.**  
From New York to Wilmington.....\$15 50  
do do Norfolk.....8 50  
From Philadelphia to Wilmington.....14 00  
do do Norfolk.....6 50  
do do Petersburg.....9 00  
do do Richmond.....8 00

**FARE BY THROUGH TICKETS TO THE WEST.**  
From New York to Cincinnati.....\$13 50  
do do Louisville.....14 50  
From Philadelphia to Cincinnati.....11 00  
do do Louisville.....12 00  
From New York to Indianapolis.....16 00  
An extra charge will be made for meals and state rooms on  
board the boat. **GEORGE A. PARKER, Supt.**

## CHILLED WHEELS,

FOR  
**RAILROAD CARS & LOCOMOTIVE ENGINES**  
**Bush & Lobdell,**  
WILMINGTON, DELAWARE.

ARE prepared to execute promptly orders to any extent  
for their celebrated Wheels, (with or without axles,) the  
character of which is well known.

## Mill Seats and Timber Lands for Sale.

A VALUABLE LUMBERING ESTABLISH-  
ment in full operation, a large new mill, a  
good stock of logs on hand, and a quantity of  
sawed lumber in the yard.

Connected with the above is a large and desir-  
able tract of timber land in Pennsylvania near the  
Delaware River and convenient to the New York  
and Erie Railway which will be sold in part or  
whole to suit customers.

For particulars apply to E. P. WHITMORE, office  
of the "Plough, Loom and Anvil," 9 Spruce st.,  
New York. 4t22

## American Railway Guide.

**BEST ADVERTISING MEDIUM EXTANT.**  
**Circulation 28,000 Monthly.**  
WITH A NEW RAILWAY MAP.

THE "AMERICAN RAILWAY GUIDE" is the only work of  
the kind which contains information for all sections of the  
United States and Canada; and in every respect is a complete  
and accurate hand-book for the traveller. Besides the routes,  
distances, fares, and the times of starting and arrival of trains,  
the work furnishes in a condensed form, or in notes, a great  
amount of information respecting Steamboats, Canals and  
Stage Routes, connecting with the several Railroads. It is  
issued on the first of every month, and is always thoroughly  
corrected from official information to date of publication. Sub-  
scription \$1 per annum; single copies 12 1/2 cents; agents sup-  
plied at \$3 per 100 copies.  
Published by **DINSMORE & CO.,** No. 9 Spruce-st., N. Y.

## H. SCHLARBAUM,

290 Broadway corner Reade st.  
**SURVEYORS' LEVELS, COMPASSES** and other Mathe-  
matical Instruments made with great care and for sale at  
low prices. Repairs done in the best manner. 1417

## Lithography.

**G. WISSENBERG**, Civil Engineer and draughtsman 131  
Fulton St. up stairs; also gives his attention to the en-  
graving of maps; and machinery on stone. Locomotives and  
other things depicted at this establishment on the most reason-  
able terms.—Orders are solicited. 50.11<sup>a</sup>

**PHILADELPHIA RAILWAY AGENCY**  
AND  
**General Furnishing Depot**  
OF ALL ARTICLES REQUIRED BY  
**RAILROAD COMPANIES,**  
No. 80 South Fourth street,  
**PHILADELPHIA.**

Railroad Chairs,  
Railroad Spikes,  
Car Wheels,  
Car Axles,  
Boiler and Tank Rivets,  
Bolts, Nuts, Washers,  
Car Lanterns and Lamps,  
Conductors' Lanterns,  
Engineers' Lanterns,  
Locomotive Head Lights,  
Car and Switch Locks,  
Jack Screws, Vices,  
Patent Oil Cans,  
Steam Gauges,  
Steam Whistles,  
Spring Balances,  
Car Findings &c., &c.

ALL orders promptly filled at manufacturers' prices and for-  
warded with despatch. Particular attention paid to con-  
tracting for Locomotives, Cars, Railroad Iron, &c.  
The subscriber being Agent for several manufacturers of  
Machinists' Tools is enabled to furnish Railroad Companies with  
Lathes, Planing Machines, Drills, &c., of the best quality at  
manufacturers' prices.—Orders solicited  
50 1y **THOS. M. CASH.**

**ENGINEERS' AND SURVEYORS'**  
**INSTRUMENTS, MADE BY**  
**Edmund Draper,**  
Surviving partner of  
**STANCLIFFE & DRAPER,**

No. 22 Pear Street, below Walnut,  
near Third St., **PHILADELPHIA.**

## To Railroad Companies, Bridge Builders, Merchants and Machinists.

THE undersigned continue to manufacture at the Tredegar  
Iron Works, Richmond, Va., Bar Iron of every description,  
Railroad Chairs and Spikes, Car and Locomotive Axles, &c.  
&c., and solicit a call from those in want of such articles, be-  
fore they make their purchases.

Our iron has been used very extensively for the last 18 years  
in the construction of Government work, Railroad Fastenings,  
Bridge Bolts and other Bridge work; and has given universal  
satisfaction.

On this point we give a copy of a letter received from one  
well qualified to give an opinion on the subject, having a very  
large experience. **MORRIS & TANNER.**

OFFICE MASTER OF ROAD BALT. & OHIO R. R. CO.  
Baltimore, March 9th, 1885.  
Messrs. Morris & Tanner, Tredegar Iron Works,  
Richmond, Va.

I take great pleasure in recommending the Bar Iron manu-  
factured at your establishment to all who are in want of a su-  
perior article. I have used it in the construction of Iron  
Bridges, and also for Chairs and Fastenings for Track and feel  
free to say that for strength and finish it compares favorably  
with the best manufactured American Iron.

3ml4 **W. BOLLMAN, Master of Road.**

## Notice to Contractors.

OFFICE OF DUBUQUE & PACIFIC RAILROAD CO.  
Dubuque, 20th June, 1885.

SEALED PROPOSALS will be received at this  
Office until the 1st August next, for the Grad-  
ing, Masonry, Superstructure, and Equipage, &c.;  
required to construct and complete the First Di-  
vision of the Road of this Company, extending  
West of Dyersville, a distance of 30 miles.

The means of the Company amount to the sum of  
\$500,000; the balance must be furnished by the  
Contractors. No proposals will be entertained,  
except from parties of the most unquestionable  
ability.

Maps, Profiles, Plans, Estimates, &c., can be  
seen at this Office. Any information can be ob-  
tained by addressing the Secretary of this Compa-  
ny at Dubuque, or R. B. MASON, Esq., Chief En-  
gineer, Chicago.

**I. P. FARLEY, Pres't.**  
**EDWARD STIMSON, Sec.**